UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2020

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission File Number: 001-33500

JAZZ PHARMACEUTICALS PUBLIC LIMITED COMPANY

(Exact name of registrant as specified in its charter)

Ireland	**98-1032470**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

Fifth Floor, Waterloo Exchange
Waterloo Road, Dublin 4, Ireland D04 E5W7
011-353-1-634-7800
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Ordinary shares, nominal value $0.0001 per share	**JAZZ**	**The Nasdaq Stock Market LLC**

Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐ Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant, as of June 30, 2020, the last business day of the registrant's most recently completed second fiscal quarter, was approximately $5,958,338,704 based upon the last sale price reported for the registrant's ordinary shares on such date on The Nasdaq Global Select Market. The calculation of the aggregate market value of voting and non-voting common equity excludes 1,454,458 ordinary shares of the registrant held by executive officers, directors and shareholders that the registrant concluded were affiliates of the registrant on that date. Exclusion of such shares should not be construed to indicate that any such person possesses the power, direct or indirect, to direct or cause the direction of the management or policies of the registrant or that such person is controlled by or under common control with the registrant.

As of February 16, 2021, a total of 56,325,436 ordinary shares, nominal value $0.0001 per share, of the registrant were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Certain information required by Part III, Items 10-14 of this Form 10-K is incorporated by reference to the registrant's definitive Proxy Statement for the 2021 Annual General Meeting of Shareholders to be filed with the Securities and Exchange Commission pursuant to Regulation 14A. If such Proxy Statement is not filed within 120 days after the end of the fiscal year covered by this Form 10-K, such information will be included in an amendment to this Form 10-K to be filed within such 120-day period.

JAZZ PHARMACEUTICALS PLC
2020 ANNUAL REPORT ON FORM 10-K

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We own or have rights to various copyrights, trademarks, and trade names used in our business in the U.S. and/or other countries, including the following: Jazz Pharmaceuticals®, Xyrem® (sodium oxybate) oral solution, Sunosi® (solriamfetol), Defitelio® (defibrotide sodium), Defitelio® (defibrotide), Erwinaze® (asparaginase *Erwinia chrysanthemi*), Erwinase®, CombiPlex®, Vyxeos® (daunorubicin and cytarabine) liposome for injection, Vyxeos® liposomal 44 mg/100 mg powder for concentrate for solution for infusion, Zepzelca™ (lurbinectedin), and Xywav™ (calcium, magnesium, potassium, and sodium oxybates) oral solution. This report also includes trademarks, service marks and trade names of other companies. Trademarks, service marks and trade names appearing in this Annual Report on Form 10-K are the property of their respective owners.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, which are subject to the "safe harbor" created by those sections. Forward-looking statements are based on our management's beliefs and assumptions and on information currently available to our management. In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "could," "would," "expect," "plan," "anticipate," "believe," "estimate," "project," "predict," "propose," "intend," "continue," "potential," "possible," "strive," "seek," "designed," "goal", "foreseeable," "likely," "unforeseen" and similar expressions intended to identify forward-looking statements. These statements involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance, time frames or achievements to be materially different from any future results, performance, time frames or achievements expressed or implied by the forward-looking statements. We discuss many of these risks, uncertainties and other factors in this Annual Report on Form 10-K in greater detail under the heading "Risk Factors." Given these risks, uncertainties and other factors, you should not place undue reliance on these forward-looking statements. In addition, our goals and objectives are aspirational and are not guarantees or promises that such goals and objectives will be met. Also, these forward-looking statements represent our estimates and assumptions only as of the date of this filing. You should read this Annual Report on Form 10-K completely and with the understanding that our actual future results may be materially different from what we expect. We hereby qualify our forward-looking statements by our cautionary statements. Except as required by law, we assume no obligation to update our forward-looking statements publicly, or to update the reasons that actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.

SUMMARY RISK FACTORS

Below is a summary of material factors that make an investment in our ordinary shares speculative or risky. Importantly, this summary does not address all of the risks and uncertainties that we face. Additional discussion of the risks and uncertainties summarized in this risk factor summary, as well as other risks and uncertainties that we face, can be found under "Risk Factors" in Part I, Item 1A of this Annual Report on Form 10-K. The below summary is qualified in its entirety by that more complete discussion of such risks and uncertainties. You should consider carefully the risks and uncertainties described under "Risk Factors" in Part I, Item 1A of this Annual Report on Form 10-K as part of your evaluation of an investment in our ordinary shares.

- We may not realize the anticipated benefits and synergies from our proposed acquisition of GW Pharmaceuticals.
- The pending acquisition of GW Pharmaceuticals may not be completed on the currently contemplated timeline or terms, or at all; and regulatory bodies could impose certain requirements upon the combined company as a condition to approval that could reduce the anticipated benefits of the transaction.
- Failure to complete the acquisition of GW Pharmaceuticals could have a material and adverse effect on us.
- The indebtedness of the combined company following the consummation of the acquisition will be substantially greater than our indebtedness on a standalone basis and greater than the combined indebtedness of Jazz Pharmaceuticals and GW Pharmaceuticals prior to the announcement of the acquisition. This increased level of indebtedness could adversely affect the combined company's business flexibility and increase its borrowing costs.
- Our inability to maintain or increase sales from our neuroscience therapeutic area would have a material adverse effect on our business, financial condition, results of operations and growth prospects.
- The introduction of new products in the U.S. market that compete with, or otherwise disrupt the market for, our oxybate products and product candidates would adversely affect sales of our oxybate products and product candidates.
- The distribution and sale of our oxybate products are subject to significant regulatory restrictions, including the requirements of a risk evaluation and mitigation strategy, or REMS, and these regulatory requirements subject us to risks and uncertainties, any of which could negatively impact sales of Xyrem and Xywav.
- While we expect our oxybate products, Xyrem and our newly approved Xywav, to remain the largest part of our business, our success also depends on our ability to effectively commercialize products in our oncology therapeutic area.
- We face substantial competition from other companies, including companies with larger sales organizations and more experience working with large and diverse product portfolios.
- Adequate coverage and reimbursement from third party payors may not be available for our products and we may be unable to successfully contract for coverage from pharmacy benefit managers and group purchasing organizations, which could diminish our sales or affect our ability to sell our products profitably; conversely, to secure coverage from these organizations, we may be required to pay rebates or other discounts or other restrictions to reimbursement that could diminish our sales.
- The pricing of pharmaceutical products has come under increasing scrutiny as part of a global trend toward healthcare cost containment and resulting changes in healthcare law and policy may impact our business in ways that we cannot currently predict, which could have a material adverse effect on our business and financial condition.

- In addition to access, coverage and reimbursement, the commercial success of our products depends upon their market acceptance by physicians, patients, third party payors and the medical community.
- Delays or problems in the supply of our products for sale or for use in clinical trials, loss of our single source suppliers or failure to comply with manufacturing regulations could materially and adversely affect our business, financial condition, results of operations and growth prospects.
- Our future success depends on our ability to successfully develop and obtain and maintain regulatory approvals for our late-stage product candidates and, if approved, to successfully launch and commercialize those product candidates.
- We may not be able to successfully identify and acquire or in-license additional products or product candidates to grow our business, and, even if we are able to do so, we may otherwise fail to realize the anticipated benefits of these transactions.
- Conducting clinical trials is costly and time-consuming, and the outcomes are uncertain. A failure to prove that our product candidates are safe and effective in clinical trials, or to generate data in clinical trials to support expansion of the therapeutic uses for our existing products, could materially and adversely affect our business, financial condition, results of operations and growth prospects.
- We have incurred and may in the future incur substantial costs as a result of litigation or other proceedings relating to patents, other intellectual property rights and related matters, and we may be unable to protect our rights to, or commercialize, our products.
- Changes in the market for directors and officers liability insurance could make it more difficult and more expensive for us to obtain directors and officers liability insurance, and such insurance coverage may have reduced policy limits and coverage, may not be sufficient to cover our potential liabilities and may make it more difficult for us to attract and retain directors and officers.
- Our business is currently adversely affected and could be materially and adversely affected in the future by the evolving effects of the COVID-19 pandemic and related global economic slowdown as a result of the current and potential future impacts on our commercialization efforts, clinical trial activity, research and development activities, supply chain and corporate development activities and other business operations, in addition to the impact of a global economic slowdown.
- Significant disruptions of information technology systems or data security breaches could adversely affect our business.
- We are subject to significant ongoing regulatory obligations and oversight, which may result in significant additional expense and limit our ability to commercialize our products.
- If we fail to comply with our reporting and payment obligations under the Medicaid Drug Rebate program or other governmental pricing programs, we could be subject to additional reimbursement requirements, penalties, sanctions and fines, which could have a material adverse effect on our business, financial condition, results of operations and growth prospects.
- We have incurred substantial debt, which could impair our flexibility and access to capital and adversely affect our financial position, and our business would be adversely affected if we are unable to service our debt obligations.
- To continue to grow our business, we will need to commit substantial resources, which could result in future losses or otherwise limit our opportunities or affect our ability to operate and grow our business.
- The market price of our ordinary shares has been volatile and is likely to continue to be volatile in the future, and the value of your investment could decline significantly.

NOTE REGARDING COMPANY REFERENCE

In this report, unless otherwise indicated or the context otherwise requires, all references to "Jazz Pharmaceuticals," "Jazz,""the registrant," "we," "us," and "our" refer to Jazz Pharmaceuticals plc and its consolidated subsidiaries.

PART I

Item 1. Business

Overview

Jazz Pharmaceuticals plc is an innovative global biopharmaceutical company dedicated to developing and commercializing life-changing medicines that transform the lives of patients with serious diseases – often with limited or no options. We have a diverse portfolio of marketed medicines and novel product candidates, in early- to late-stage development, across key therapeutic areas. Our focus is in neuroscience, including sleep and movement disorders, and in oncology, including hematologic malignancies and solid tumors. We actively explore new options for patients including novel compounds, small molecule advancements, biologics and innovative delivery technologies.

Our lead marketed products are:

- **Xyrem® (sodium oxybate) oral solution**, a product approved by the U.S. Food and Drug Administration, or FDA, and marketed in the U.S. for the treatment of both cataplexy and excessive daytime sleepiness, or EDS, in narcolepsy patients seven years of age and older;
- **Xywav™ (calcium, magnesium, potassium, and sodium oxybates) oral solution**, a product that contains 92% less sodium than Xyrem, approved by FDA and launched in the U.S. in November 2020 for the treatment of cataplexy or EDS in narcolepsy patients seven years of age and older;
- **Sunosi® (solriamfetol)**, a product approved by FDA and the European Commission, or the EC, and marketed in the U.S. and in Europe to improve wakefulness in adult patients with EDS associated with narcolepsy or obstructive sleep apnea, or OSA;
- **Defitelio® (defibrotide sodium)**, a product approved in the U.S. for the treatment of adult and pediatric patients with hepatic veno-occlusive disease, or VOD, also known as sinusoidal obstruction syndrome, or SOS, with renal or pulmonary dysfunction following hematopoietic stem cell transplantation, or HSCT, and in Europe (where it is marketed as Defitelio® (defibrotide)) for the treatment of severe VOD in adults and children undergoing HSCT therapy;
- **Erwinaze® (asparaginase *Erwinia chrysanthemi*)**, a product approved in the U.S. and in certain markets in Europe (where it is marketed as Erwinase®) for patients with acute lymphoblastic leukemia, or ALL, who have developed hypersensitivity to *E. coli*-derived asparaginase;
- **Vyxeos® (daunorubicin and cytarabine) liposome for injection**, a product approved in the U.S. and in Europe (where it is marketed as Vyxeos® liposomal 44 mg/100 mg powder for concentrate for solution for infusion) for the treatment of adults with newly-diagnosed therapy-related acute myeloid leukemia, or t-AML, or AML with myelodysplasia-related changes, or AML-MRC; and
- **Zepzelca™ (lurbinectedin)**, a product approved by FDA and launched in July 2020 in the U.S. for the treatment of adult patients with metastatic small cell lung cancer, or SCLC, with disease progression on or after platinum-based chemotherapy.

Our strategy to create sustainable shareholder value is focused on:

- Strong commercial execution to drive diversified revenue growth and address unmet medical needs of our patients across our product portfolio including with rapid adoption of Xywav in the U.S., Sunosi growth globally and establishing Zepzelca as a treatment of choice for second line SCLC patients;
- Expanding and advancing our pipeline with internal and external patient-centric innovation to achieve a valuable product portfolio of durable, highly differentiated programs;
- Continuing to build a flexible, efficient, and productive development engine for targeted therapeutic conditions to identify and progress early- and mid-stage assets; and
- Investing in an efficient, scalable operating model and differentiated capabilities to enable growth; and unlock further value through indication expansion and global markets.

In 2020, consistent with our strategy, we continued to focus on research and development activities within our neuroscience and oncology therapeutic areas, such as our expansion into movement disorders and solid tumors, and exploring and investing in adjacent therapeutic areas that could further diversify our portfolio, such as post-traumatic stress disorders through our acquisition of SpringWorks Therapeutics, Inc.'s, fatty acid amide hydrolase, or FAAH, inhibitor program. For a summary of our ongoing research and development activities, see "Business—Research and Development" in this Part I, Item 1.

Proposed Acquisition of GW Pharmaceuticals

On February 3, 2021, we announced that we have entered into a definitive transaction agreement, or the GW Transaction Agreement, with GW Pharmaceuticals plc, or GW, under which a wholly-owned subsidiary of ours, Jazz Pharmaceuticals UK Holdings Limited, or Acquisition Sub, agreed to acquire GW. The GW Transaction Agreement provides, among other things, that, subject to the satisfaction or waiver of the conditions set forth in the GW Transaction Agreement, we (through Acquisition Sub) will acquire the entire issued share capital of GW, which we refer to in this report as the GW Acquisition. Under the GW Transaction Agreement, the consideration to be paid by us in the GW Acquisition consists of $220.00 per American Depositary Share in GW, to be paid in the form of $200 in cash and $20 in our ordinary shares, for total consideration of approximately $7.2 billion. The GW Acquisition is expected to close in the second quarter of 2021, subject to the satisfaction or waiver of the

conditions set forth in the GW Transaction Agreement, including applicable regulatory approvals and the approval of GW shareholders.

Our Commercialized Products

Neuroscience

Xyrem. Xyrem is a product approved by FDA and marketed in the U.S. for the treatment of both cataplexy and EDS in both adult and pediatric patients with narcolepsy. Sodium oxybate, the active pharmaceutical ingredient, or API, in Xyrem, is a formulation of the sodium salt of gamma-hydroxybutyrate, an endogenous neurotransmitter and metabolite of gamma-aminobutyric acid.

Narcolepsy is a chronic, debilitating neurological disorder characterized by EDS and the inability to regulate sleep-wake cycles normally. It affects an estimated one in 2,000 people in the U.S., with symptoms typically appearing in childhood. There are five primary symptoms of narcolepsy, including EDS, cataplexy, disrupted nighttime sleep, sleep-related hallucinations, and sleep paralysis. While patients with narcolepsy may not experience all five symptoms, EDS, an essential symptom of narcolepsy, is present in all narcolepsy patients and is characterized by chronic, pervasive sleepiness as well as sudden irresistible and overwhelming urges to sleep (inadvertent naps and sleep attacks). Narcolepsy may affect many areas of life, including limiting a patient's education and employment opportunities, and may lead to difficulties at work, school, or in daily life activities like driving, operating machinery or caring for children. Patients with narcolepsy may also suffer from significant medical comorbidities, including cardiac disorders, depression, suicide risk, anxiety, diseases of the digestive system and respiratory diseases.

Cataplexy, the sudden loss of muscle tone with retained consciousness, can be one of the most debilitating symptoms of narcolepsy. Cataplexy is present in approximately 70% of patients with narcolepsy. Cataplexy can range from slight weakness or a drooping of facial muscles to the complete loss of muscle tone resulting in postural collapse. It may also impair a patient's vision or speech. Cataplexy is often triggered by strong emotions such as laughter, anger or surprise. Cataplexy can severely impair a patient's quality of life and ability to function.

Xyrem was approved in the U.S. for the treatment of cataplexy in adult patients with narcolepsy in 2002 and was approved for EDS in adult patients with narcolepsy in 2005. In October 2018, Xyrem was also approved in the U.S. for the treatment of cataplexy or EDS in pediatric narcolepsy patients ages seven and older. The American Academy of Sleep Medicine recommends Xyrem as a standard of care for the treatment of both cataplexy and EDS associated with narcolepsy.

In an effort to reach more patients who might benefit from our oxybate products, we continue to implement initiatives such as outreach to prescribers who treat narcolepsy, physician/healthcare provider education, enhanced patient and physician support services and unbranded disease awareness programs for the public.

Our marketing, sales and distribution of Xyrem in the U.S. are subject to a risk evaluation and mitigation strategy, or REMS, which is required by FDA to mitigate the risks of serious adverse outcomes resulting from inappropriate prescribing, abuse, misuse and diversion of Xyrem. Under this REMS, all of the Xyrem sold in the U.S. must be dispensed and shipped directly to patients or caregivers through a central pharmacy. Xyrem may not be stocked in retail pharmacies. Physicians and patients must complete an enrollment process prior to fulfillment of Xyrem prescriptions, and each physician and patient must receive materials concerning the serious risks associated with Xyrem before the physician can prescribe, or a patient can receive, the product. The central certified pharmacy must monitor and report instances of patient or prescriber behavior giving rise to a reasonable suspicion of abuse, misuse or diversion of Xyrem, and maintains enrollment and prescription monitoring information in a central database. The central pharmacy ships the product directly to the patient (or caregiver) by a courier service.

We have had exclusive agreements with Express Scripts Specialty Distribution Services, Inc., or ESSDS, the central pharmacy for Xyrem, to distribute Xyrem in the U.S. and provide patient support services related to Xyrem since 2002. In July 2020, upon expiration of the existing exclusive agreements with ESSDS, we entered into new agreements with ESSDS with a two-year term. Our current agreements with ESSDS, which expire on July 1, 2022, may be terminated by either party at any time without cause on 180 days' prior written notice to the other party.

In 2020, net product sales of Xyrem were $1.7 billion, which represented 74% of our total net product sales.

Xywav. Xywav (formerly JZP-258) is a product approved by FDA for the treatment of cataplexy or EDS in both adult and pediatric patients with narcolepsy. Xywav is an oxybate product that contains 92% less sodium than Xyrem. In January 2020, we submitted a new drug application, or NDA, for Xywav for the treatment of both cataplexy and EDS in patients with narcolepsy and in connection with this submission, redeemed the priority review voucher, or PRV, we acquired in May 2018. FDA approved Xywav for this indication in July 2020 and we commenced the U.S. launch of Xywav in November 2020. The 92% reduction of sodium translates into a reduction of approximately 1,000 to 1,500 milligrams per day for a patient prescribed an oxybate product, depending on the dose. When patients start Xywav after a sodium oxybate product, Xywav treatment is

initiated at the same dose and regimen as the sodium oxybate product (gram for gram) and titrated as needed based on efficacy and tolerability. The label for Xywav, unlike Xyrem, does not include a warning to prescribers to monitor patients sensitive to sodium intake, including patients with heart failure, hypertension or renal impairment.

Narcolepsy is a chronic condition where patients, by virtue of their diagnosis, are at increased risk of cardiovascular events and disease, and the impact of sodium on cardiovascular health is well established. There is also broad scientific consensus that reducing sodium consumption, which is a modifiable risk factor, is associated with clinically-meaningful reductions in blood pressure and cardiovascular disease risk. Given that narcolepsy is a life-long condition, we therefore believe that reducing sodium intake vs. the standard of care by 92% each and every day is a significant advancement for these patients. Health care providers and patients who understand the increased risk of cardiovascular disease faced by narcolepsy patients and who have been educated on the meaningful reduction in sodium from Xyrem to Xywav cite that meaningful reduction as a key reason for prescribing or starting on Xywav.

In approving Xywav, FDA approved a REMS to cover both Xywav and Xyrem. The Xywav and Xyrem REMS have the same requirements for both products and is also distributed by the central pharmacy through exclusive agreements with ESSDS.

In 2020, net product sales of Xywav were $15.3 million, which represented 1% of our total net product sales. Following the U.S. launch of Xywav in November 2020, approximately 1,900 patients were taking Xywav by the end of 2020. With respect to Xyrem and Xywav in the aggregate, average active oxybate patients on therapy was approximately 15,300 in the fourth quarter of 2020. Total net product sales of Xywav were offset by the cost of launch related co-pay coupons and a free product program for certain qualified patients. We expect to have broad commercial payor coverage within the first 6 to 9 months following launch. To date, we have entered into agreements with various entities and have achieved coverage for Xywav for over 60% of commercial lives.

Sunosi. Sunosi received FDA approval in March 2019 and was launched in the U.S. in July 2019 to improve wakefulness in adult patients with EDS associated with narcolepsy or OSA. Sunosi was also approved in January 2020 by the EC to improve wakefulness and reduce EDS in adults with narcolepsy (with or without cataplexy) or OSA. We launched Sunosi in Germany for the treatment of narcolepsy in May 2020 and in Denmark in October 2020. We expect to continue the rolling launch in Europe as we secure pricing and reimbursement approvals in more European countries.

OSA, commonly referred to as sleep apnea, is a highly prevalent disease, and EDS, a major symptom of OSA, is characterized by the inability to stay awake and alert during the day resulting in unplanned lapses into sleep or drowsiness. Although positive airway pressure therapy, with its most common form being continuous positive airway pressure, or CPAP, has been shown to be an effective therapy for sleep apnea that frequently results in improvement in EDS in many patients, not all patients tolerate CPAP therapy and among those who tolerate CPAP, usage is highly variable. EDS may persist in people with OSA despite using CPAP.

In 2020, net product sales of Sunosi were $28.3 million, which represented 1% of our total net product sales.

Oncology

Defitelio. Defibrotide, the API in Defitelio, is approved for the treatment of VOD, a potentially life-threatening complication of HSCT, and is in development for other complications following anti-cancer treatment. Defibrotide is the sodium salt of a complex mixture of single-stranded oligodeoxyribonucleotides derived from porcine DNA. Defibrotide mediates its effects via interaction with endothelial cells. Non-clinical data suggest that defibrotide stabilizes endothelial cells by reducing endothelial cell activation and by protecting them from further damage.

Stem cell transplantation is a frequently used treatment modality for hematologic cancers and other conditions in both adults and children. Certain conditioning regimens used as part of HSCT can damage the cells that line the hepatic vessels, which is thought to lead to the development of VOD, also referred to as SOS, a blockage of the small vessels in the liver, that can lead to liver failure and potentially result in significant dysfunction in other organs such as the kidneys and lungs. Severe VOD is the most extreme form of VOD and is associated with multi-organ failure and high rates of morbidity and mortality. An analysis of retrospective data, prospective cohort studies and clinical trials published between 1979 and 2007 found that the 100-day mortality rate in severe VOD cases is greater than 80%.

The EC granted marketing authorization under exceptional circumstances for Defitelio for the treatment of severe VOD in adults and children undergoing HSCT in 2013. We commenced a rolling launch of Defitelio in European countries in 2014.

In 2016, FDA approved our NDA for Defitelio for the treatment of adult and pediatric patients with VOD with renal or pulmonary dysfunction following HSCT. We launched Defitelio in the U.S. shortly after FDA approval. We also launched defibrotide in Canada in 2017. In June 2019, Nippon Shinyaku Co., Ltd., the partner to whom we have granted exclusive rights to develop and commercialize defibrotide in Japan, received marketing authorization from Japan's Ministry of Health, Labour and Welfare and launched defibrotide in Japan in September 2019. Further geographic expansion occurred in July 2020 and

September 2020, as Defitelio was approved by the Australian Therapeutic Goods Administration and Swissmedic in Switzerland, respectively, for the treatment of VOD.

In 2020, Defitelio/defibrotide product sales were $195.8 million, which represented 8% of our total net product sales.

Erwinaze. Erwinaze (called Erwinase in markets outside the U.S.) is a biologic product used in conjunction with chemotherapy to treat patients with ALL who have developed hypersensitivity to *E. coli*-derived asparaginase. Originally developed by Public Health England, a national executive agency of the United Kingdom, or UK, Erwinaze is an asparaginase, a type of enzyme that can deprive leukemic cells of an amino acid essential for their growth. It is derived from a rare bacterium (*Erwinia chrysanthemi*) and is immunologically distinct from *E. coli*-derived asparaginase and suitable for patients with hypersensitivity to *E. coli*-derived treatments.

For ALL patients with hypersensitivity to *E. coli*-derived asparaginase, Erwinaze can be a crucial component of their therapeutic regimen. Current treatment guidelines and protocols recommend switching a patient receiving *E. coli*-derived asparaginase to treatment with Erwinaze if the patient's hypersensitivity reaction to the *E. coli*-derived asparaginase is clinically meaningful, indicating that the hypersensitivity reaction has resulted in an intervention or interruption in infusion occurring in the patient's treatment regimen. While treatment protocols for pediatric, adolescent and young adult (up to age 39) patients commonly include asparaginase, adult protocols do not.

First approved by FDA under a biologics license application, or BLA, for administration via intramuscular injection in conjunction with chemotherapy, Erwinaze was launched in the U.S. in 2011. In 2014, FDA approved a supplemental BLA for administration of Erwinaze via intravenous infusion in conjunction with chemotherapy.

Erwinaze was exclusively licensed to us for worldwide marketing, sales and distribution by Porton Biopharma Limited, or PBL, a company that is wholly owned by the UK Department of Health and Social Care. Our license and supply agreement with PBL, which includes our license to Erwinaze trademarks and manufacturing know-how, expired on December 31, 2020. Under our agreement with PBL, we have the right to sell certain Erwinaze inventory for a post-termination sales period of 12 months and retain ownership of certain data, know-how and other rights, including the BLA for Erwinaze in the U.S. and marketing authorizations for Erwinase in several other countries. During this post-termination period, PBL also manufactures the product for us and is our sole supplier for Erwinaze. We are obligated to make tiered royalty payments to PBL based on worldwide net sales of Erwinaze. Subject to successful receipt, release and FDA approval for the batches from PBL, we expect to distribute available Erwinaze supply during the first half of 2021.

In 2020, net product sales of Erwinaze were $147.1 million, which represented 6% of our total net product sales.

Vyxeos. Vyxeos is a liposomal formulation of a fixed ratio combination of daunorubicin and cytarabine for intravenous infusion that is indicated for the treatment of adults with newly-diagnosed t-AML or AML-MRC and has been shown to have synergistic effects at killing leukemia cells in vitro and in animal models. Vyxeos is the first drug delivery combination product based on our CombiPlex technology platform to be approved by FDA and the EC.

AML is a rapidly progressing and life-threatening blood cancer that begins in the bone marrow, which produces most of the body's new blood cells. AML cells crowd out healthy cells and move aggressively into the bloodstream to spread cancer to other parts of the body. AML is a relatively rare disease representing about 1% of all new cancer cases and has the lowest survival rate of any form of leukemia. Patients with newly diagnosed t-AML or AML-MRC may have a particularly poor prognosis.

In 2017, we launched Vyxeos in the U.S. after FDA approved our NDA for the treatment of adults with newly-diagnosed t-AML or AML-MRC. In August 2018, the EC granted marketing authorization for Vyxeos and, as part of our rolling launch of Vyxeos in Europe, we are continuing to make pricing and reimbursement submissions in European countries.

In 2020, Vyxeos product sales were $121.1 million, which represented 5% of our total net product sales.

Zepzelca. In furtherance of our interest in and efforts to expand our oncology therapeutic area, in December 2019, we entered into an exclusive license agreement with Pharma Mar, S.A., or PharmaMar, pursuant to which we obtained exclusive U.S. development and commercialization rights to Zepzelca.

Zepzelca for injection (4 mg) is approved by FDA to treat adults with metastatic small cell lung cancer, or SCLC, with disease progression on or after platinum-based chemotherapy. Zepzelca is approved based on response rate and how long the response lasted. Additional studies will further evaluate the benefit of Zepzelca for this use.

Zepzelca was granted orphan drug designation for SCLC by FDA in August 2018. In December 2019, PharmaMar submitted an NDA to FDA for accelerated approval of Zepzelca for relapsed SCLC based on data from a Phase 2 trial, and in February 2020, FDA accepted the NDA for filing with priority review. In June 2020, FDA granted accelerated approval of Zepzelca for the treatment of adult patients with metastatic SCLC with disease progression on or after platinum-based chemotherapy. In October 2020, we entered into an amendment to the license agreement with PharmaMar to expand our

exclusive license to include rights to develop and commercialize Zepzelca in Canada. The term of the amended license agreement extends on a licensed product-by-licensed product and country-by-country basis until the latest of: (i) expiration of the last PharmaMar patent covering Zepzelca in that country (subject to certain exclusions), (ii) expiration of regulatory exclusivity for Zepzelca in that country and (iii) 12 years after the first commercial sale of Zepzelca in that country. We have the right to terminate the amended license agreement at will upon a specified notice period, and either party can terminate the amended license agreement for the other party's uncured material breach or bankruptcy. For a description of additional terms of the amended license agreement, including financial terms, see Note 3, Asset Acquisitions, Collaborations and Disposition—License Agreement of the Notes to Consolidated Financial Statements included in this Annual Report on Form 10-K.

In December 2020 we, in conjunction with PharmaMar, announced results from the ATLANTIS Phase 3 study evaluating Zepzelca in combination with doxorubicin for adult patients with SCLC whose disease progressed following one prior platinum-containing line. The study did not meet the pre-specified criteria of significance for its primary endpoint. Key secondary and subgroup analyses favored the lurbinectedin combination arm. Patients received lurbinectedin at 2.0mg/m^2 in the combination arm, which is lower than the FDA approved dose of Zepzelca at 3.2mg/m^2. Lurbinectedin monotherapy was not tested in ATLANTIS. We anticipate initiating the Phase 4 study for the Zepzelca program, with an objective to provide critical data to complement the findings from the Basket trial, which supported the accelerated approval of Zepzelca.

In 2020, Zepzelca product sales were $90.4 million, which represented 4% of our total net product sales.

Research and Development

A key aspect of our growth strategy is our continued investment in our evolving and expanding research and development activities. We actively explore new options for patients including novel compounds, small molecule advancements, biologics and innovative delivery technologies. We are focused on research and development activities within our neuroscience and oncology therapeutic areas, such as our expansion into movement disorders and solid tumors, and exploring and investing in adjacent therapeutic areas that could further diversify our portfolio.

Our development activities encompass all stages of development and currently include clinical testing of new product candidates and activities related to clinical improvements of, or additional indications or new clinical data for, our existing marketed products. We have also expanded into preclinical exploration of novel therapies primarily through external research collaborations, including precision medicines in hematology and oncology. We are increasingly leveraging our growing research and development function, and have supported additional investigator-sponsored trials that will generate additional data related to our products. We have a number of licensing and collaboration agreements with third parties, including biotechnology companies, academic institutions and research-based companies and institutions,related to preclinical and clinical research and development activities in hematology and in precision oncology, as well as in neuroscience.

Our current and planned development activities in our neuroscience therapeutic area are focused on JZP-258 for the treatment of idiopathic hypersomnia, JZP-385, JZP-150 and JZP-324, as well as exploring additional indications for Sunosi.

JZP-258 for the treatment of idiopathic hypersomnia. In October 2020, we announced positive top-line results from a Phase 3 clinical trial evaluating JZP-258 in adult patients with idiopathic hypersomnia, a chronic, neurological disorder that is primarily characterized by EDS and that currently has no approved therapies in the U.S. We completed the rolling submission of a supplemental new drug application, or sNDA, in February 2021, and if approved by FDA in a timely manner, we expect a potential launch of JZP-258 in the fourth quarter of 2021. FDA granted Fast Track designation for JZP-258 for the treatment of idiopathic hypersomnia in September 2020.

JZP-385. JZP-385 is a T-type calcium channel modulator that is a small molecule currently in development for the treatment of essential tremor. We acquired JZP-385 in our acquisition of Cavion, Inc., or Cavion, a clinical-stage biotechnology company, in August 2019. We expect to initiate a Phase 2b study of JZP-385 in mid-year 2021.

JZP-150. JZP-150 is a FAAH inhibitor program for the potential treatment of post-traumatic stress disorder and associated symptoms. In October 2020, we entered into an asset purchase and exclusive license agreement with SpringWorks, under which we acquired SpringWorks' FAAH inhibitor program, including an assignment of SpringWorks' proprietary FAAH inhibitor PF-04457845, or PF-'845, now named JZP-150. We expect to initiate a Phase 2 study of JZP-150 in late 2021.

JZP-324. We are also pursuing early-stage activities related to the development of JZP-324, an extended-release low sodium, oxybate formulation that we believe could provide a clinically meaningful option for narcolepsy patients.

Our current and planned research and development activities in our oncology therapeutic area are focused on JZP-458, exploring additional indications for Defitelio and Vyxeos, generating additional clinical data for Zepzelca and Vyxeos, including in combination with other therapeutic agents, and the research and development of new product candidates through our external collaborations.

JZP-458. JZP-458 is a recombinant *Erwinia* asparaginase that uses a novel *Pseudomonas fluorescens* expression platform, which is being developed for use as a component of a multi-agent chemotherapeutic regimen in the treatment of pediatric and adult patients with ALL or lymphoblastic lymphoma, or LBL, who are hypersensitive to *E. coli*-derived asparaginase products. JZP-458 was granted Fast Track designation by FDA in October 2019 for the treatment of this patient population, and in December 2019, the first patient was enrolled in the pivotal Phase 2/3 clinical study for JZP-458 conducted in collaboration with the Children's Oncology Group. In December 2020, we initiated the submission of a BLA to FDA for JZP-458 under Real-Time Oncology Review, or RTOR, pilot program, with the potential approval and launch in the U.S. in mid-year of 2021.

Defitelio. Our Defitelio clinical development strategy generally focuses on the prevention and treatment of serious diseases associated with stem cell transplantation and endothelial cell damage.

Vyxeos. Our Vyxeos clinical development strategy is designed to target potential new patient segments across the AML landscape and to generate clinical data on Vyxeos when used in combination with other therapeutic agents. As reflected in the table below, we are pursuing this strategy by sponsoring clinical trials, working with cooperative groups who are conducting clinical trials, and partnering with The University of Texas MD Anderson Cancer Center, or MD Anderson. In August 2018, we announced a five-year collaboration with MD Anderson to evaluate potential treatment options for hematologic malignancies, with a near-term focus on Vyxeos, and shortly thereafter, commenced development activities under this collaboration. In addition, there are multiple ongoing investigator-sponsored trials studying Vyxeos.

Zepzelca. We anticipate the initiation in 2021 of a Phase 3 study evaluating Zepzelca in combination with immunotherapy versus immunotherapy alone in patients with extensive-stage SCLC after induction chemotherapy.

CombiPlex Platform. We are also evaluating the use of our CombiPlex delivery technology platform in a number of therapeutic combinations in oncology as part of our internal oncology research and development activities. CombiPlex enables the design and rapid evaluation of various combinations of therapies to deliver enhanced anti-cancer activity by identifying an optimal synergistic ratio of drugs in vitro and fixing this ratio in a nanoscale delivery complex that maintains and then coordinates the release of the synergistic combination after administration. CombiPlex utilizes two proprietary nanoscale delivery platforms: liposomes to control the release and distribution of water-soluble drugs and drugs that are both water- and fat-soluble (amphipathic), and nanoparticles to control the release and distribution of non-water-soluble (hydrophobic) drugs.

Through third parties, we are also pursuing preclinical and clinical research and development activities in hematology and in precision oncology under a number of licensing and collaboration agreements, including with:

- Codiak BioSciences, Inc., or Codiak, for an exclusive, worldwide, royalty-bearing license to develop, manufacture and commercialize potential therapeutic candidates directed at five targets to be developed using Codiak's engEx™ precision engineering platform for exosome therapeutics;
- Pfenex, Inc., which was acquired by Ligand Pharmaceuticals Incorporated, or Ligand, for rights to an early-stage long-acting *Erwinia* asparaginase and an option to negotiate a license for a recombinant pegaspargase product candidate;
- XL-protein GmbH, or XLp, for rights to use XLp's PASylation® technology to extend the plasma half-life of selected asparaginase product candidates; and
- Redx Pharma, or Redx, for preclinical collaboration activities related to the pan-Raf inhibitor program that we purchased from Redx for the potential treatment of Raf and Ras mutant tumors and to discover and develop drug candidates for two cancer targets in the Ras/Raf/MAP kinase pathway.

Below is a summary of our key ongoing and planned development projects related to our products and pipeline and their corresponding current stages of development:

Neuroscience

Product Candidates	Description
Regulatory	
JZP-258 (oxybate; 92% sodium reduction)	Idiopathic hypersomnia
Phase 2b	
JZP-385	Essential tremor (planned study)
Phase 2	
JZP-150	Post-traumatic stress disorder (planned study)
Phase 1	
JZP-324	Oxybate extended-release formulation
Preclinical	
Undisclosed targets	Neuroscience

Oncology

Product Candidates	Description
Regulatory	
JZP-458 (recombinant *Erwinia* asparaginase) (pivotal Phase 2/3)	ALL/LBL
Phase 3	
Vyxeos	AML or high-risk Myelodysplastic Syndrome, or MDS (AML18 and AML19) (cooperative group studies)
	Newly diagnosed adults with standard- and high-risk AML (AML Study Group cooperative group study)
	Newly diagnosed pediatric patients with AML (Children's Oncology Group cooperative group study)
Phase 2	
Vyxeos	High-risk MDS (European Myelodysplastic Syndromes Cooperative Group cooperative group study)
	Newly diagnosed older adults with high-risk AML (planned cooperative group study)
Vyxeos + venetoclax	De novo or relapsed/refractory, or R/R, AML (MD Anderson collaboration study)
Phase 1	
Vyxeos	Low intensity dosing for higher risk MDS (MD Anderson collaboration study)
Vyxeos + other approved therapies	R/R AML or hypomethylating agent failure MDS (MD Anderson collaboration study)
	First-line, fit AML (Phase 1b study)
	Low intensity therapy for first-line, unfit AML (Phase 1b study)
Preclinical	
CombiPlex	Hematology/oncology exploratory activities
JZP-341 (long-acting *Erwinia* asparaginase)	ALL and other hematological malignancies (collaboration with Ligand)
Recombinant pegaspargase	Hematological malignancies (Jazz opt-in opportunity with Ligand)
Pan-Raf inhibitor program	Raf and Ras mutant tumors (acquired from Redx, which is continuing development)
Undisclosed targets	Ras/Raf/MAP kinase pathway (collaboration with Redx)
Exosome targets (NRAS, STAT3 and 3 others)	Hematological malignancies/solid tumors (collaboration with Codiak)
Defitelio	Exploratory activities

As a result of the effects of the COVID-19 pandemic, we have taken measures to implement remote and virtual approaches, including remote data monitoring where possible, to maintain patient safety and trial continuity and to preserve study integrity. Although we have seen limited COVID-19-related impact to our mid- and late-stage clinical trial activity, despite delays in initiating trial sites, if the effects of the COVID-19 pandemic become more severe, we could experience significant disruptions to our clinical development timelines, which would adversely affect our business, financial condition, results of operations and growth prospects. For a more detailed discussion of the impact of the COVID-19 pandemic on our clinical trial activities, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Overview—COVID-19 Business Update" in Part II, Item 7 of this Annual Report on Form 10-K.

For 2021 and beyond, we expect that our research and development expenses will continue to increase from previous levels, particularly as we prepare for anticipated regulatory submissions and data read-outs from clinical trials, initiate and undertake additional clinical trials and related development work and potentially acquire rights to additional product candidates.

Subsequent Events

GW Transaction Agreement

On February 3, 2021, we announced that we have entered into the GW Transaction Agreement with GW, under which a wholly-owned subsidiary of ours, Acquisition Sub, agreed to acquire GW. The GW Transaction Agreement provides, among other things, that subject to the satisfaction or waiver of the conditions set forth in the GW Transaction Agreement, Acquisition Sub will acquire the entire issued share capital of GW pursuant to a scheme of arrangement under Part 26 of the United Kingdom Companies Act 2006, or Scheme of Arrangement, which we refer to as the GW Acquisition.

Under the GW Transaction Agreement, at the effective time of the Scheme of Arrangement, all GW ordinary shares issued and outstanding will be transferred to Acquisition Sub, and the holders of GW ordinary shares will have the right to receive, for each such share, (a) $16.66⅔ in cash and (b) an amount of our ordinary shares determined based on the exchange ratio, which exchange ratio will be determined as follows:

- If the volume-weighted average sales price of our ordinary shares, as determined in accordance with the GW Transaction Agreement, or the Defined VWAP, is greater than $139.72 but less than $170.76, the exchange ratio will be an amount equal to the quotient obtained by dividing (x) $1.66⅔ by (y) the Defined VWAP;
- If the Defined VWAP is equal to or less than $139.72, the exchange ratio will be 0.011929; or
- If the Defined VWAP is an amount equal to or greater than $170.76, the exchange ratio will be 0.009760.

Because each American Depositary Share in GW, or GW ADSs, represents a beneficial interest in 12 GW ordinary shares, holders of GW ADSs will be entitled to receive 12 times the foregoing cash and share amounts, or (1) $200 in cash and (2) $20 in the form of our ordinary shares with the actual number of our ordinary shares being determined based on the exchange ratio set out above. The total consideration to be paid by us for the entire issued share capital of GW is approximately $7.2 billion.

The respective obligations of GW and us to consummate the GW Acquisition are subject to the satisfaction or waiver of a number of customary conditions, including the approval by GW's shareholders of the Scheme of Arrangement, obtaining certain regulatory approvals, including expiration of the applicable waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, and obtaining sanction of the Scheme of Arrangement by the High Court of Justice of England and Wales. The GW Acquisition is not subject to approval by our shareholders, nor is the GW Acquisition subject to a financing contingency. The GW Acquisition is expected to close in the second quarter of 2021, subject to the satisfaction or waiver of the conditions set forth in the GW Transaction Agreement. The GW Transaction Agreement contains customary representations and warranties given by GW and us, covenants regarding the conduct of GW's business prior to the consummation of the GW Acquisition, termination rights and other customary provisions.

Financing Commitment

On February 3, 2021, in connection with the execution of the GW Transaction Agreement, we entered into a commitment letter with BofA Securities, Inc., Bank of America, N.A. and JPMorgan Chase Bank, N.A. pursuant to which these commitment parties have committed to provide us with a senior secured revolving credit facility in an aggregate principal amount of up to $500.0 million, a senior secured term loan B facility in an aggregate principal amount of up to $3,150.0 million and a senior secured bridge loan facility in an aggregate principal amount of up to $2,200.0 million to, among other things, finance our obligations in respect of the GW Acquisition. The effectiveness of such credit facilities is subject to the occurrence of customary closing conditions, including the consummation of the GW Acquisition.

Commercialization Activities

We have commercial operations primarily in the U.S., Europe and Canada. In the U.S., our products are commercialized through a number of teams, including a team of experienced, trained sales professionals who provide education and promote

Xyrem, Xywav, Sunosi, Defitelio, Erwinaze, Vyxeos and Zepzelca to healthcare providers in the appropriate specialties for each product, a team that interacts with payors and institutions to ensure access and coverage for the products, and a team that distributes the products throughout the U.S. healthcare system (wholesalers, pharmacies, hospitals, and community and academic institutions) and provides patient services.

In Canada and in approved markets in Europe where we commercialize Defitelio, Erwinase and Vyxeos, we have a field force of hematology sales specialists. In markets where these products either are not approved or are unable to be promoted under local regulation, we have medical affairs personnel responsible for responding to medical information requests and for providing information consistent with local treatment protocols with respect to such products. In certain European markets, we have a sales team and a team of medical science liaisons supporting our rolling launch of Sunosi in Europe. Outside the U.S., we directly market Xyrem in Canada for the treatment of cataplexy in patients with narcolepsy. We also utilize distributors in certain markets outside the U.S. where we do not market our products directly.

Our commercial activities include marketing related services, distribution services and commercial support services. We employ third party vendors, such as advertising agencies, market research firms and suppliers of marketing and other sales support-related services, to assist with our commercial activities. We also provide reimbursement support for our U.S. markets.

We intend to scale the size of our sales force as appropriate to effectively reach our target audience in the specialty markets in which we currently operate. We promote Defitelio, Erwinaze, Vyxeos and Zepzelca to many hematology and oncology specialists who operate in the same hospitals, and we believe that we benefit from operational synergies from this overlap. We expect that a potential launch of JZP-458 in the U.S. or Europe would require minimal additional support. Continued growth of our current marketed products and the launch of any future products may require further expansion of our field force and support organization in and outside the U.S. In addition, beginning in March 2020, we transitioned our field-based sales, market access, reimbursement and medical employees out of the field and suspended work-related travel and in-person customer interactions as a result of the COVID-19 pandemic. We utilized technology to continue to engage healthcare professionals and other customers virtually to support patient care. In late June 2020, as clinics and institutions began to allow in-person interactions pursuant to local health authority and government guidelines, our field teams resumed in-person interactions with healthcare professionals and clinics combined with virtual engagement. The level of renewed engagement varies by account, region and country and may be adversely impacted in the future as a result of the continuing impact of the COVID-19 pandemic. For a more detailed discussion of the impact of the COVID-19 pandemic on our commercialization activities, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Overview—COVID-19 Business Update" in Part II, Item 7 of this Annual Report on Form 10-K.

Human Capital Management and Environment, Health and Safety

Jazz is committed to creating a company where the culture embodies our corporate purpose to innovate to transform the lives of patients and reflects our key goals: (1) be a great place to work; and (2) live our core values of *Integrity, Collaboration, Passion, Innovation, and Pursuit of Excellence.*

Employee Demographics. As of February 16, 2021, Jazz employed approximately 1,940 people worldwide, of which approximately 1,250 were employed in the U.S. and approximately 690 were outside the U.S. in the UK, Ireland and across the European Union, or EU. As an innovative biopharmaceutical company, we have over 400 full-time employees — greater than 20% of our global workforce — supporting our research and development activities. We consider our employee relations to be very good.

Diversity, Equity and Inclusion. We make diversity, equity and inclusion, or DEI, a priority because it is a key to unlocking the potential of our people and living our core values.

We strive to create a workplace culture that fosters the ability to be your authentic self and contribute boldly. We aspire to have multi-dimensional diversity through our entire Jazz workforce. We seek to surround underrepresented groups with allies to enable all employees to thrive equitably. Our Board and management team are committed to fostering DEI in all parts of our business.

Our DEI strategy includes: (1) building a more diverse workforce in terms of gender identity, race, ethnicity and sexual orientation and that represent unique backgrounds, experiences, thoughts and talents; (2) investing in developing our diverse talent and driving equity; and (3) and creating a culture of inclusion and belonging.

We designed our Employee DEI program to empower employees to guide and support our strategy and programs related to hiring diverse talent and using education and communication to continue fostering an inclusive environment. We also have a DEI Delegation, a committee of employees focused on helping to embed DEI into all we do.

Jazz ConcERTos, our employee resource teams, are self-led teams of employee volunteers with diverse backgrounds who come together to promote innovation through inclusion and to increase awareness of all dimensions of diversity. We believe that these groups will contribute positively to Jazz's culture and business success by working cross-functionally to drive

innovation, helping to decrease unconscious bias, and encouraging employees to be their whole selves so they can perform at their best.

We have established goals related to increasing all dimensions of diversity, including representation of females and people of color, particularly at the leadership level (i.e., employees at executive director and above). In this regard, we have made some meaningful progress, as demonstrated by the following, as of February 16, 2021:

- Approximately 40% of our board of directors is diverse in terms of gender and ethnicity.
- 45% of our Executive Committee are women.
- Females represent 60% of our global workforce and 40% at the leadership level (employees at executive director and above).
- In the U.S., people of color represent 32% of our U.S. workforce and 18% at the leadership level.

While we are proud of what we have accomplished to date, we recognize there is still much to do. We remain committed to furthering our goals of providing a diverse, equitable and inclusive workplace that is supportive of all backgrounds, including among our broader leadership.

Employee Engagement. Jazz has a strong employee value proposition anchored in our shared commitment to our purpose to innovate to transform the lives of patients. We are committed to ensuring that we create a rich culture that provides a great place to work for our employees through company-wide efforts to connect employees to our shared purpose and to create an environment where our people feel valued, respected, and able to contribute to their full potential. We believe employee engagement and the power of our employee voices is foundational to strong performance. We have transparent and regular communication channels with our employees consisting of many forms – including all employee meetings, regular communication messages from executive leadership, top leadership forums, pulse check feedback mechanisms and engagement surveys.

Our employee feedback surveys are designed to help us measure overall employee engagement and we consistently achieve participation rates between 80 to 90%. We consistently have high levels of engagement measured by feelings of connection to our mission, Jazz as a great place to work where their well-being is supported and they feel valued and included. It also provides important insight into the areas where we need to focus in the year ahead for several key components of our company objectives, such as decision-making, opportunities for development, and diversity, equity and inclusion. Our survey informs programs and activities aligned with achieving our corporate objectives and achieving our goal of evolving our operating culture for agility and scalability.

Our Community Beat teams are employee volunteers and representatives that promote company culture and create a sense of belonging and camaraderie among our employees. They foster programs and engagement activities on a local level to draw better connections to employees with the company strategy and business milestones, give back through community service, and promote different health and well-being initiatives.

Growth, Development and Total Rewards. We understand that empowering people to find new and better ways of doing things, to gain new experiences and to development new capabilities can also support our growth and achievements as a company. The exciting opportunities within our business provide rich and ample learning opportunities and experiences for career growth.

Our talent strategy focuses on attracting the best talent, recognizing and rewarding the performance of our employees as defined by both *what* they accomplished and *how* they accomplished it, and continually developing our talent through new experiences and learning opportunities.

We recently launched a new performance management system to support our culture of learning, feedback, and continual growth. We encourage all employees to have an individual development plan to outline learning and growth interests and focus areas. We invest in manager and leadership development that emphasizes the important behaviors and values to successfully lead others and promote our culture. We offer tuition reimbursement in our major markets aimed at growth and career development.

Our management and leadership teams place significant focus and attention to diversity, capability development, and succession planning for critical roles. We regularly review talent development and succession plans for each of our functions to successfully maintain business operations and develop a pipeline of talent. We have goals concerning employee retention, diversity, and talent development.

We provide our employees with what we believe to be market competitive and locally relevant compensation and benefits that support our overarching strategy to attract, retain and reward highly talented employees in an extremely competitive and dynamic industry.

We strive to create a culture of health and well-being throughout the organization by offering a diverse and customizable set of programs focusing on employee experience, self-care, work-life balance, flexibility and early intervention. In addition to traditional employee benefits, Jazz supports employees and their families through access to a suite of innovative programs that are designed to enhance their physical, financial, emotional and social well-being.

Workplace Safety & Employee Care During COVID-19. Workplace safety is always a top priority for Jazz. To create and sustain a safe and healthy workplace, we have implemented initiatives designed to address risk evaluation, education and training of employees, use of appropriate personal protective equipment, and compliance with relevant national and international health and safety standards.

In response to COVID-19, we launched a new employee support framework focused on Care, Connection, Continuity and Consciousness (our "4Cs") to enable our employees to live into our values and support one another while doing everything we can to deliver on our patient mission. Important to this framework were new leader expectations and tools given the rise and complexity of emerging employee demands and needs – including more flexibility to address personal needs, a greater connection to understand the whole person and their lives, and more active support surrounding social injustice. For example, we provided productivity and collaboration tools and resources for employees working remotely, including training and toolkits to help leaders effectively lead and manage remote teams; increased flexibility within work schedules and leave programs to support employees caring for children and others; expanded employees assistance and mindfulness programs to help employees and their families manage anxiety, stress, and overall wellbeing; and increased investment in resources focused on inclusion and belonging.

Environment, Health and Safety. Our operations are subject to complex and increasingly stringent environmental, health and safety laws and regulations in the countries where we operate and, in particular, in Italy and Ireland where we have manufacturing facilities. Our manufacturing activities involve the controlled storage, use and disposal of chemicals and solvents. Environmental and health and safety authorities in Italy and Ireland administer laws governing, among other matters, the emission of pollutants into the air (including the workplace), the discharge of pollutants into bodies of water, the storage, use, handling and disposal of hazardous substances, the exposure of persons to hazardous substances, and the general health, safety and welfare of employees and members of the public. In certain cases, such laws, directives and regulations may impose strict liability for pollution of the environment and contamination resulting from spills, disposals or other releases of hazardous substances or waste. Costs, damages and/or fines may result from the presence, investigation and remediation of such contamination at properties currently or formerly owned, leased or operated by us or at off-site locations, including where we have arranged for the disposal of hazardous substances or waste. In addition, we may be subject to third party claims, including for natural resource damages, personal injury and property damage, in connection with such contamination.

We seek to operate our manufacturing facilities in an environmentally responsible way to protect our people, our business, our environment and the local communities in which we operate. In light of the potential impact of our business on the environment, we have adopted a number of internal environmental policies and management systems designed to manage our operations in compliance with applicable laws, directives and regulations on environmental protection and in support of environmental sustainability and local biodiversity. Our environmental policies and management systems include procedures for assessing compliance with applicable environmental laws and regulations and reporting incidents of non-compliance to applicable governmental authorities. For example, we have environmental policies governing both of our manufacturing facilities in Athlone, Ireland and Villa Guardia (Como), Italy, which demonstrate our commitment to environmental sustainability and require us to minimize resource use (e.g., energy and water) and waste generation, optimize the use of raw materials, and undertake continuous improvement in environmental performance, with an emphasis on pollution prevention.

Competition

The biopharmaceutical industry is highly competitive. Our products compete, and our product candidates may in the future compete, with currently existing therapies, product candidates currently under development by us and others and/or future product candidates, including new chemical entities that may be safer, more effective or more convenient than our products. Any products that we develop may be commercialized in competitive markets, and our competitors, which include large global pharmaceutical companies and small research-based companies and institutions, may succeed in developing products that render our products obsolete or noncompetitive.

With respect to competition we face from generic drugs, certain U.S. state laws allow for, and in some instances in the absence of specific instructions from the prescribing physician mandate, the dispensing of generic products rather than branded products when a generic version is available. Generic competition often results in decreases in the prices at which branded products can be sold.

In particular, our products and most advanced product candidates face or may face competition as described below:

- *Xyrem and Xywav*. While Xyrem and Xywav are currently the only products approved by FDA and marketed in the U.S. for the treatment of both cataplexy and EDS in both adult and pediatric patients with narcolepsy, we and others

have launched products to treat EDS in narcolepsy and may in the future launch products to treat cataplexy in narcolepsy that are competitive with or disrupt the market. In the future, we expect to face competition from authorized generic and generic versions of sodium oxybate. For a description of generic versions of sodium oxybate and/or new products for treatment of cataplexy and/or EDS that could compete with, or otherwise disrupt the market for, Xyrem and Xywav, as well as a description of our settlement agreements with abbreviated new drug application, or ANDA, filers, see the risk factor under the heading "*The introduction of new products in the U.S. market that compete with, or otherwise disrupt the market for, our oxybate products and product candidates would adversely affect sales of our oxybate products and product candidates"* in Part I, Item 1A of this Annual Report on Form 10-K.

In addition to generic competition, Xyrem and Xywav may face competition in the future from other new sodium oxybate formulations for treatment of narcolepsy. In December 2020, Avadel Pharmaceuticals plc, or Avadel, announced the filing of a NDA for an extended-release formulation of sodium oxybate which uses its proprietary technology for the treatment of EDS and cataplexy in patients with narcolepsy. Avadel has also announced that it has obtained an orphan drug designation from FDA for its extended-release sodium oxybate formulation. To obtain approval with orphan drug exclusivity, Avadel will have to show clinical superiority to Xyrem and Xywav. We cannot predict the timing or approvability of Avadel's sodium oxybate product candidate or how FDA will evaluate any clinical superiority arguments that either we or Avadel may make, but in any event, we expect to face competition from Avadel, if its product candidate is approved.

Xyrem and Xywav may also face increased competition from new branded entrants to treat EDS in narcolepsy such as pitolisant, which has been approved by FDA for the treatment of both cataplexy and EDS in adult patients with narcolepsy. Other companies have announced that they have product candidates in various phases of development to treat the symptoms of narcolepsy, such as Axsome Therapeutics, Inc.'s reboxetine, and various companies are performing research on orexin agonists for the treatment of sleep disorders.

In addition, we are also aware that prescribers often prescribe branded or generic medications for cataplexy before prescribing or instead of prescribing oxybate therapy in Xyrem or Xywav, and that payors often require patients to try such medications before they will cover Xyrem or Xywav, even if they are not approved for this use. For example, prescribers often treat mild cataplexy with drugs that have not been approved by FDA for this indication, including tricyclic antidepressants and selective serotonin reuptake inhibitors or selective norepinephrine reuptake inhibitors. We are also aware that branded or generic stimulants may be prescribed off-label for treatment of EDS in narcolepsy. Wake-promoting agents modafinil and armodafinil, including both branded and generic equivalents, are approved for the treatment of EDS in narcolepsy and other conditions, and may be used in conjunction with or instead of Xyrem or Xywav.

- *Sunosi*. Sunosi faces competition from existing branded and generic products that treat EDS or improve wakefulness in adult patients with narcolepsy or OSA in a competitive retail pharmacy market. To successfully commercialize Sunosi, we need to differentiate Sunosi from other branded and generic products that treat EDS in patients with narcolepsy, including stimulants, wake-promoting agents, such as modafinil and armodafinil, and generic versions of stimulants and wake-promoting agents. We are also aware that stimulants are prescribed off-label for patients to treat excessive sleepiness in OSA. Sunosi may face competition from new branded entrants such as pitolisant, a drug that was approved by FDA in August 2019 for the treatment of EDS in adult patients with narcolepsy and in October 2020 for the treatment of cataplexy in adult patients with narcolepsy. Pitolisant became commercially available in the U.S. in the fourth quarter of 2019, and has also been approved and marketed in Europe to treat adult patients with narcolepsy with or without cataplexy. Sunosi may also face competition from other products in development as potential treatments for EDS in patients with narcolepsy or OSA.
- *Defitelio*. While there is currently no direct competition to Defitelio to treat severe VOD, changes in the types of conditioning regimens used as part of HSCT may affect the incidence of VOD diagnosis and demand for Defitelio.
- *Erwinaze*. While there is currently no direct competition to Erwinaze to treat ALL patients with hypersensitivity to *E. coli*-derived asparaginase, we and other companies have developed or are developing new treatments for ALL. For example, we initiated the submission of a BLA to FDA for JZP-458 (recombinant *Erwinia* asparaginase) in December 2020. Some new asparaginase treatments could reduce the rate of hypersensitivity in patients with ALL, and new treatment protocols are being developed and approved for ALL that may not include asparaginase-containing regimens, including some for the treatment of relapsed or refractory ALL patients. We have experienced frequent intermittent shortages of the product that have impacted prescribing habits for Erwinaze, including prescribers' use of alternate methods to address hypersensitivity reactions. As a biologic product, Erwinaze also faces potential competition from biosimilar products. In April 2020, PBL announced that it had entered into an agreement with a new partner to commercialize and distribute Erwinaze after our license and supply agreement expired in December

2020. Subject to successful receipt, release and FDA approval for the batches from PBL, we expect to distribute available Erwinaze supply during the first half of 2021.

- *Vyxeos*. With respect to Vyxeos, there are a number of alternative established therapies in AML. A key consideration in the treatment of AML patients is the patient's suitability for chemotherapy. The AML patient population studied in the Vyxeos Phase 3 clinical trial supporting our NDA included 60-75 year old fit patients, or those deemed able to tolerate intensive induction chemotherapy. Prior to Vyxeos, the most widely recognized option for the treatment of newly-diagnosed t-AML and AML-MRC in fit patients was cytarabine in combination with daunorubicin, known as 7+3, which is still used today in this population, along with other intensive chemotherapy regimens, particularly in patients under the age of 60. Also, since Vyxeos was approved, several other products have been approved by FDA or are in development as treatment options for newly diagnosed AML patients eligible for intensive chemotherapy, such as targeted agents (e.g. midostaurin, enasidenib and ivosidenib), immunotherapies (e.g., gemtuzumab ozogamicin and chimeric antigen receptor T-cell therapy), and agents disrupting leukemia cell survival (e.g., glasdegib). We are also aware of the increasing use of venetoclax combined with either a hypomethylating agent or low-dose cytarabine, a treatment approved by FDA in newly diagnosed AML patients who are age 75 years or older, or who have comorbidities that preclude use of intensive induction chemotherapy.
- *Zepzelca.* Zepzelca faces competition from topotecan, which is also an approved treatment in second line SCLC in the U.S., as well as other regimens for relapsed SCLC currently recommended in compendia guidelines. There are also a number of products and immunotherapies for the treatment of second line SCLC in various phases of development.

An important part of our corporate strategy is to build a diversified product pipeline, including by acquiring or in-licensing and developing, or partnering to license and develop, additional products and product candidates that we believe are highly differentiated and have significant commercial potential. Our ability to continue to grow our product portfolio requires that we compete successfully with other pharmaceutical companies, many of which may have substantially greater financial sales and marketing resources, to acquire or in-license products and product candidates.

Customers

In the U.S., Xyrem and Xywav are sold to one specialty pharmacy, ESSDS, that ships Xyrem and Xywav directly to patients. Also in the U.S., Sunosi is distributed through a retail channel consisting of numerous distributors who sell Sunosi to retail pharmacies. Defitelio and Erwinaze are sold to hospital customers through subsidiary specialty distributors of McKesson Corporation, or McKesson. Zepzelca and Vyxeos are sold to customers through subsidiary specialty distributors of McKesson, AmerisourceBergen Corporation, or ABC, and Cardinal Health, Inc., or Cardinal. We have distribution services agreements made in the ordinary course of business with McKesson, ABC and Cardinal and a pharmacy services agreement with ESSDS that provides for the distribution of Xyrem and Xywav to patients. For more information regarding our relationship with ESSDS, see "Business—Our Commercialized Products—Xyrem" in this Part I, Item 1. Purchases are made on a purchase order basis.

In certain countries in Europe, Sunosi, Defitelio, Erwinase and Vyxeos are sold pursuant to marketing authorizations. We distribute these products through Durbin PLC, a UK-based wholesaler and distributor, and O&M Movianto Nederland BV, our centralized European logistics services provider, to hospitals and local wholesalers in Europe where we market these products directly and, in other markets in Europe and elsewhere where we do not market these products directly, to local distributors and wholesalers. In countries where there is no marketing authorization, Defitelio, Erwinase and Vyxeos are sold pursuant to named patient programs, temporary use authorizations or similar authorizations.

We directly market Xyrem in Canada for the treatment of cataplexy in patients with narcolepsy. Xyrem is also sold in 20 countries by UCB Pharma Limited, or UCB (which has rights to market Xyrem in 54 countries).

Manufacturing

We have a manufacturing and development facility in Athlone, Ireland where we manufacture Xyrem and Xywav, and a manufacturing plant in Villa Guardia, Italy where we produce the defibrotide drug substance. We currently do not have our own commercial manufacturing or packaging capability for our other products, product candidates or their APIs. As a result, our ability to develop and supply products in a timely and competitive manner depends primarily on third party suppliers being able to meet our ongoing commercial and clinical trial needs for API, other raw materials, packaging materials and finished products. Our manufacturing facility in Athlone, Ireland currently continues to be operational with essential staff onsite and office-based staff working remotely. In March 2020, we temporarily ceased operations at our Villa Guardia, Italy manufacturing facility, which produces defibrotide, to ensure the safety of our employees and communities in northern Italy. We reopened the facility in the second quarter of 2020 taking into account applicable public health authority and local government guidelines as well as employee safety, and the facility has now resumed operations with essential staff onsite and office-based staff working remotely. However, the effects of the COVID-19 pandemic continue to rapidly evolve and even if our employees more broadly return to work in our global offices, the field and our manufacturing facilities, we may

nevertheless have to resume a remote work model, whether as a result of spikes or surges in COVID-19 infection or hospitalization rates or otherwise.

Lead Marketed Products

Xyrem. Xyrem is manufactured by us in our Athlone facility and by Patheon Pharmaceuticals Inc., which we refer to together with its affiliates as Patheon, under a Master Manufacturing Services Agreement, or the Patheon Agreement, entered into with Patheon in 2015. We manufacture Xyrem in our Athlone facility for most of our U.S. commercial supply and rely on Patheon to supply Xyrem for other markets, though we are not required to purchase Xyrem exclusively from Patheon. The current term of the Patheon Agreement will expire in December 2022, subject to further automatic two-yearly extensions if Patheon is then providing manufacturing services for any product, unless either party provides prior notice of termination. In addition, we may terminate the Patheon Agreement for any reason upon 12 months' prior written notice.

Siegfried USA, LLC and its European affiliates, or Siegfried, supply sodium oxybate, the API of Xyrem, to Patheon and our Athlone facility. Although Siegfried has been our only supplier of sodium oxybate since 2012, we have the right to purchase a portion of our worldwide requirements of sodium oxybate from other suppliers. The agreement with Siegfried expires in April 2024, subject to automatic three-year extensions until either party provides advance notice of its intent to terminate the agreement. During the term of the agreement and, under certain circumstances for 18 months after the agreement terminates, Siegfried is not permitted to manufacture sodium oxybate for any other company.

Xyrem is a Schedule III controlled substance in the U.S., and the API of Xyrem is the sodium salt of gamma-hydroxybutyric acid, which is a Schedule I controlled substance in the U.S. As a result, Xyrem is subject to regulation by the U.S. Drug Enforcement Administration, or DEA, under the Controlled Substances Act, or CSA, and its manufacturing and distribution are highly restricted. Quotas from the DEA are required in order to manufacture and package sodium oxybate and Xyrem in the U.S. For information related to DEA quota requirements, see "Business—Government Regulation—Other Post-Approval Pharmaceutical Product Regulation—Controlled Substance Regulations" in this Part I, Item 1.

Xywav. Xywav is manufactured at our Athlone facility. Xywav is a Schedule III controlled substance in the U.S., and the API of Xywav are the calcium, magnesium, potassium and sodium salts of gamma-hydroxybutyric acid, which is a Schedule I controlled substance in the U.S. As a result, Xywav is subject to regulation by the DEA under the CSA, and its manufacturing and distribution are highly restricted. Quotas from the DEA are required in order to manufacture and package calcium, magnesium, potassium and sodium oxybate and Xywav in the U.S. For information related to DEA quota requirements, see "Business—Government Regulation—Other Post-Approval Pharmaceutical Product Regulation—Controlled Substance Regulations" in this Part I, Item 1.

Sunosi. Siegfried AG is our sole supplier of both the API and finished product for Sunosi for both commercial sale as well as development activities. Although Siegfried AG is currently our only manufacturer and supplier of Sunosi, we have the right to purchase a portion of our worldwide requirements of API and drug product from other suppliers. Under our agreement, we provide periodic rolling forecasts to Siegfried AG, and a portion of each rolling forecast is binding. The initial term of the agreement with Siegfried AG will expire in December 2024 and will then be subject to automatic one-year extensions until either party provides advance notice of its intent to terminate the agreement. Solriamfetol, the API of Sunosi, and Sunosi were designated Schedule IV controlled substances by the DEA under the CSA.

Defitelio. We are our own sole supplier of, and we believe that we are currently the sole worldwide producer of, the defibrotide API. We manufacture the defibrotide API from porcine DNA in a single facility located in Villa Guardia, Italy. Patheon currently processes the defibrotide API into its finished vial form under a specific product agreement entered into under a separate agreement with Patheon. Patheon is the sole provider of our commercial and clinical supply of Defitelio; however, we are not required to purchase Defitelio exclusively from Patheon. If Patheon does not or is not able to supply us with Defitelio for any reason, it may take time and resources to implement and execute the necessary technology transfer to another processor, and such delay could negatively impact our anticipated revenues from Defitelio and could potentially cause us to breach contractual obligations with customers or to violate local laws requiring us to deliver the product to those in need.

Erwinaze. PBL is our sole supplier of Erwinaze. Our license and supply agreement with PBL, which includes an exclusive right to market, sell or distribute Erwinaze, expired on December 31, 2020. Under our agreement with PBL, we have the right to sell certain Erwinaze inventory for a post-termination sales period of 12 months. Subject to successful receipt, release and FDA approval for the batches from PBL, we expect to distribute available Erwinaze supply during the first half of 2021. For information related to our expired agreement with PBL, see "Business—Our Commercialized Products—Erwinaze" in this Part I, Item 1.

Vyxeos. Vyxeos is manufactured by Baxter Oncology GmbH, or Baxter, which is a sole source supplier from a single site location, using our CombiPlex technology platform. CombiPlex products represent formulations with increased manufacturing complexities associated with producing drug delivery vehicles encapsulating two or more drugs that are maintained at a fixed ratio and, in the case of Vyxeos, two drugs that are co-encapsulated in a freeze-dried liposomal format. Our manufacturing

agreement with Baxter expires in August 2025, subject to automatic three-year renewal terms, unless either party provides advance notice of its intent to terminate the agreement. While other contract manufacturers may be able to produce Vyxeos, the proprietary technology that supports the manufacture of Vyxeos is not easily transferable. The marketing authorization in the EU for Vyxeos also requires us to comply with certain manufacturing-related post-approval commitments.

Zepzelca. Zepzelca is manufactured by Baxter. The initial term of the agreement with Baxter will expire in December 2023 and will then be subject to automatic two-year extensions, unless either party provides advance notice of its intent to terminate the agreement. PharmaMar retains manufacturing rights for the API for U.S. and Canadian commercial supply of Zepzelca. We also entered into a manufacturing agreement for ongoing commercial supply of the drug product Zepzelca with GP Pharm S.A.

Product Candidates

JZP-458 is currently manufactured by Patheon, and the API of JZP-458 is manufactured by AGC Biologics A/S.

JZP-258 for idiopathic hypersomnia is currently manufactured at our Athlone facility, and we expect to manufacture this product commercially at our Athlone facility should this candidate receive regulatory approval.

For discussion of the challenges we face with respect to supply of our products and product candidates, see the risk factor under the heading "*Delays or problems in the supply of our products for sale or for use in clinical trials, loss of our single source suppliers or failure to comply with manufacturing regulations could materially and adversely affect our business, financial condition, results of operations and growth prospects"* in Part I, Item 1A of this Annual Report on Form 10-K.

Patents and Proprietary Rights

We actively seek to patent, or to acquire or obtain licenses to third party patents, to protect our products and product candidates and related inventions and improvements that we consider important to our business. We own a portfolio of U.S and non-U.S. patents and patent applications and have licensed rights to a number of issued patents and patent applications. Our owned and licensed patents and patent applications cover or relate to our products and product candidates, including certain formulations, used to treat particular conditions, distribution methods and methods of administration, drug delivery technologies and delivery profiles and methods of making and use. Patents extend for varying periods according to the date of the patent filing or grant and the legal term of patents in the various countries where patent protection is obtained. The patent laws of non-U.S. countries differ from those in U.S., and the degree of protection afforded by non-U.S. patents may be different from the protection offered by U.S. patents. In addition to patents, our products and product candidates are in some instances protected by various regulatory exclusivities. For a description of those exclusivities and their regulatory background, see "Business—Government Regulation—Marketing Exclusivity—The Hatch-Waxman Act" in this Part I, Item 1.

The patents, patent applications and regulatory exclusivities that relate to our marketed products include:

- *Xyrem*. We currently have six issued, unexpired patents in the U.S. relating to Xyrem. These patents are listed in FDA's publication "Approved Drug Products with Therapeutic Equivalence Evaluations," or the Orange Book. Our patents relate to Xyrem's restricted distribution system and a drug-drug interaction, or DDI, between Xyrem and divalproex sodium. In October 2018, as a result of FDA's grant of pediatric exclusivity, an additional six months was added to the original expiration dates of all of our Orange Book-listed patents that existed at that time. As a result, our Orange Book-listed patents have periods of exclusivity between December 2022 and September 2033. Some of our Xyrem patents have been subject to patent litigation with the companies who filed ANDAs seeking to market a generic version of Xyrem, including challenge through the inter partes review, or IPR, procedures of the Patent Trial and Appeal Board, or PTAB, of the U.S. Patent and Trademark Office, or USPTO. Some IPR petitions were dismissed by the PTAB. However, in July 2018, the United States Court of Appeals for the Federal Circuit upheld on appeal PTAB decisions finding that six patents associated with the Xywav and Xyrem REMS and three claims of a seventh REMS patent were unpatentable. As a result, we will not be able to enforce patents or claims that the PTAB found unpatentable. Although we have settled all patent litigation against the nine companies that filed ANDAs, it is possible that additional companies may challenge our U.S. patents for Xyrem in the future. For a description of our Xyrem settlements, see the risk factor under the heading "*The introduction of new products in the U.S. market that compete with, or otherwise disrupt the market for, our oxybate products and product candidates would adversely affect sales of our oxybate products and product candidates*" in Part I, Item 1A of this Annual Report on Form 10-K.

  A Xyrem formulation patent that had issued in multiple non-U.S. countries expired in December 2019. The European Patent Office has issued a method of administration patent relating to the DDI between Xyrem and divalproex sodium that will expire in February 2034. That patent is licensed to UCB as the marketing authorization holder outside of the U.S. and Canada, and UCB has the right to enforce it. In addition to our issued patents, we have patent applications relating to Xyrem pending in the U.S. and other countries.

- *Xywav.* We have U.S. patents and patent applications that relate to Xywav. Some of these patents expire in early 2033. In addition, we have patent applications that relate to Xywav for use in additional indications that would, if issued, expire between 2040 and 2041.
- *Sunosi*. We acquired worldwide development, manufacturing and commercial rights to solriamfetol from Aerial BioPharma LLC, or Aerial, in 2014, including Aerial's patent rights relating to solriamfetol, other than in certain jurisdictions in Asia where SK Biopharmaceuticals Co., Ltd. retains rights. We have a portfolio of U.S. and non-U.S. patents and patent applications for solriamfetol relating to various compositions, formulations and methods of use. Four of our U.S. patents are method of use patents covering treatment of sleep-related conditions expiring between June 2026 and August 2027 and another U.S. patent is directed to dose escalation regimens expiring in June 2038. Two other U.S. patents cover, respectively, the formulation of solriamfetol and the method of treating select conditions with formulations of solriamfetol (both expiring in September 2037). A request for a patent term extension for one of the above method of use patents has been filed. Requests for Supplementary Protection Certificate in certain European validation countries for a related European patent have been granted in Austria, Ireland, Italy, Netherlands, and Sweden (expiring in June 2031) and remain pending in the others. Sunosi has also been granted orphan drug exclusivity for narcolepsy and new chemical entity exclusivity in the U.S.
- *Defitelio*. The unique process of deriving defibrotide from porcine DNA is extensive and uses both chemical and biological processes that rely on complex characterization methods. We have U.S. and non-U.S. patents and patent applications relating to various compositions, methods of use and methods of characterization, with the issued patents expiring at various times between April 2021 and November 2035. None of these patents are listed in the Orange Book. Defibrotide has been granted orphan drug exclusivity by FDA to treat and prevent VOD until March 2023. Defibrotide has also been granted orphan drug designation by the EC and the Korean Ministry of Food and Drug Safety to treat and prevent VOD, by the Commonwealth of Australia-Department of Health for the treatment of VOD and by the EC for the prevention of acute Graft-versus-Host Disease, or aGvHD. We acquired the rights to defibrotide for the treatment and prevention of VOD in North America, Central America and South America from Sigma-Tau Pharmaceuticals, Inc. in 2014.
- *Erwinaze*. Erwinaze has no patent protection. It had been granted orphan drug exclusivity by FDA for the treatment of ALL in the U.S. until November 2018, and as a biological product approved under a BLA, we believe that it is protected by exclusivity that prevents approval of a biosimilar in the U.S. through late 2023 under the U.S. Biologics Price Competition and Innovation Act, or BPCIA. In the EU, the regulatory data protection that provides an exclusivity period for Erwinase has lapsed.
- *Vyxeos.* We have a portfolio of U.S. and non-U.S. patents and patent applications for Vyxeos and the CombiPlex technology platform relating to various compositions and methods of making and use. These include seven U.S. patents covering Vyxeos compositions and methods of use expiring between April 2025 and September 2034 and two U.S. patents covering CombiPlex (which also cover Vyxeos) expiring in January 2027. These patents are listed in the Orange Book. Vyxeos has been granted orphan drug exclusivity by FDA until August 2024, seven years from its FDA approval, for the treatment of adults with newly-diagnosed t-AML or AML-MRC. In addition, Vyxeos has been granted orphan drug designation by the EC until August 2028, ten years from its EC approval for the treatment of adults with newly-diagnosed t-AML or AML-MRC.
- *Zepzelca*. In December 2019, we entered into an exclusive license agreement with PharmaMar pursuant to which we obtained exclusive U.S. development and commercialization rights to Zepzelca. In October 2020, we entered into the amended license agreement which expanded our exclusive license to include rights to develop and commercialize Zepzelca in Canada. We have a portfolio of in-licensed U.S. and Canadian patents for lurbinectedin relating to compositions, methods of use, and processes. For example, one U.S. patent (expiring in 2024) covers a genus of compounds, including lurbinectedin, and use in treating various cancers. A request for a patent term extension for this U.S. patent has been filed. Zepzelca has also been granted orphan drug exclusivity for the treatment of adults with metastatic SCLC with disease progression on or after platinum-based chemotherapy until 2027 and new chemical entity exclusivity until 2025 in the U.S.

The patents and/or patent applications that relate to our product candidates include:

- *JZP-385*. Through the acquisition of Cavion in 2019, we obtained a portfolio of U.S. and non-U.S. patents and patent applications, including rights relating to compositions and methods of using JZP-385. The portfolio includes a U.S. composition of matter patent relating to JZP-385, which expires in 2027.
- *JZP-150.* Through the asset purchase and exclusive license agreement with SpringWorks in 2020, we obtained a license to a portfolio of U.S. and non-U.S. patents and patent applications, including rights relating to compositions

and methods of using JZP-150. The portfolio includes a U.S. composition of matter patent relating to JZP-150, which expires in 2029.

- *JZP-458*. In 2016, we obtained worldwide rights from Pfenex, Inc., including Pfenex's patent rights relating to JZP-458, to develop and commercialize multiple early-stage hematology product candidates, including a license to two U.S. process patents relating to JZP-458, with respective expirations in 2026 and 2038. Pfenex has been acquired by Ligand Pharmaceuticals Incorporated.

In addition, we have rights to a number of trademarks and service marks, and pending trademark and service mark applications, in the U.S. and elsewhere in the world to further protect the proprietary position of our products. For a discussion of the challenges we face in obtaining or maintaining patent and/or trade secret protection, see the risk factors under the heading "Risks Related to Our Intellectual Property" in Part I, Item 1A of this Annual Report on Form 10-K.

Government Regulation

As a global pharmaceutical company, our activities are subject to extensive regulation in the U.S., Europe and other countries where we do business. Regulatory requirements encompass the entire life cycle of pharmaceutical products, from research and development activities to marketing approval, manufacturing, labeling, packaging, adverse event and safety reporting, storage, advertising, promotion, sale, pricing and reimbursement, recordkeeping, distribution, importing and exporting. Regulations differ from country to country and are constantly evolving.

Testing and Approval of Pharmaceutical Products

We are not permitted to market a product in a country until we receive approval from the relevant regulatory authority, such as FDA in the U.S. and the EC or the competent authorities of the EU member states. An application for marketing approval must contain information generated by the applicant, also called a sponsor, demonstrating the quality, safety and efficacy of the product candidate, including data from preclinical and clinical trials, proposed product packaging and labeling and information pertaining to product formulation and the manufacture and analytical testing of the API and the finished product.

In the U.S., FDA reviews and, if warranted, approves applications for marketing approval. The process for obtaining marketing approval in the U.S. for a drug or biologic product candidate generally includes:

- conducting preclinical laboratory and animal testing and submitting the results to FDA in an investigational new drug, or IND, application requesting approval to test the product candidate in human clinical trials;
- conducting adequate and well-controlled human clinical trials to establish the safety and efficacy of the product candidate in the desired indication;
- submitting an NDA, sNDA, or BLA, as appropriate, to FDA seeking approval for a specific indication; and
- completing inspections by FDA of the facilities where the product candidate is manufactured, analyzed and stored to demonstrate compliance with current Good Manufacturing Practices, or cGMP, and any requested FDA audits of the clinical trial sites that generated the data supporting the application.

Human clinical trials conducted before approval of a product generally proceed in three sequential phases, although the phases may overlap. In Phase 1, the initial introduction of the product candidate in humans, the product candidate is typically tested to assess metabolism, pharmacokinetics, pharmacological actions and side effects associated with increasing doses. Phase 2 usually involves clinical trials in a limited patient population to determine the effectiveness of the product candidate for a particular indication or indications, dosage tolerance and optimum dosage and to identify common adverse effects and safety risks. If a product candidate demonstrates evidence of effectiveness and an acceptable safety profile in Phase 2, Phase 3 clinical trials are undertaken to obtain additional information about clinical efficacy and safety in a larger number of patients. Clinical trials must be conducted in accordance with specific protocols, as well as FDA requirements related to conducting the trials and recording and reporting the results, commonly referred to as good clinical practices, to ensure that the resulting data are credible and accurate and that the trial participants are adequately protected. FDA enforces good clinical practices through periodic inspections of trial sponsors, clinical investigators and trial sites.

Once an NDA, sNDA or BLA has been compiled and submitted, FDA performs an initial review before it accepts the application for filing. FDA may refuse to file an application and/or request additional information before acceptance. Once accepted for filing, FDA begins an in-depth review of the application. Under the current goals and policies agreed to by FDA under the Prescription Drug User Fee Act, or PDUFA, for a new molecular entity, FDA has ten months from the filing decision in which to complete its initial review of a standard application and respond to the applicant, and eight months for a priority application. FDA does not always meet its PDUFA goal dates, and in certain circumstances, the PDUFA goal date may be extended.

FDA also has various programs, including Fast Track, Priority Review, Breakthrough Therapy and Accelerated Approval (Subpart H and E), RTOR pilot program, that are intended to expedite the process for reviewing certain applications and/or provide for approval on the basis of surrogate endpoints or restricted distribution. Generally, products may be eligible for one or more of these programs if they are intended for serious or life-threatening diseases or conditions, have potential to address unmet medical needs, or may provide meaningful benefit over existing treatments. For example, FDA granted Vyxeos Breakthrough Therapy and Fast Track designations and also granted Priority Review with respect to our NDA for Vyxeos for the treatment of t-AML and AML-MRC that was approved in August 2017. In addition, a PRV may be used to obtain priority review by FDA for one of our future regulatory submissions. We used the PRV we acquired in May 2018 to obtain priority review for our JZP-258 for the treatment of idiopathic hypersomnia sNDA, which is under review by FDA. In June 2020, FDA granted Accelerated Approval to Zepzelca for relapsed SCLC. In December 2020, we initiated the submission of a BLA for JZP-458 for ALL under the RTOR pilot program.

During its review of an application, FDA evaluates whether the product demonstrates the required level of safety and efficacy for the indication for which approval is sought and also conducts the inspections and audits described above. FDA may also refer an application to an advisory committee, typically a panel of clinicians, for review, evaluation and a non-binding recommendation as to whether the application should be approved. When FDA completes its evaluation, it issues either an approval letter or a complete response letter. A complete response letter generally outlines what FDA considers to be the deficiencies in the application and may indicate that substantial additional testing or information is required in order for FDA to approve the product. If and when identified deficiencies have been addressed to FDA's satisfaction after a review of the resubmission of the application, or if the decision is reversed through an administrative appeal, FDA will issue an approval letter.

Even if a product is approved, the approval may be subject to limitations based on FDA's interpretation of the data submitted in the application. For example, as a condition of approval, FDA may require the sponsor to agree to certain post-marketing requirements, such as conducting Phase 4, or post-approval, clinical trials to gain additional safety data or to document a clinical benefit in the case of products approved under Accelerated Approval regulations. FDA's approval of the BLA for Erwinaze includes a number of post-marketing commitments and requirements. Several post-marketing commitments and requirements were also mandated by FDA in connection with its approval of Defitelio, including the requirement that we conduct a clinical trial to analyze the safety of defibrotide versus best supportive care in the prevention of VOD in adult and pediatric patients, and its approval of Vyxeos, including the requirement that we conduct a safety study to characterize infusion-related reactions in patients treated with Vyxeos and a clinical trial to determine dosing to minimize toxicity in patients with moderate and severe renal impairment. For example, FDA granted Accelerated Approval to Zepzelca for relapsed SCLC based on data from a Phase 2 trial, which approval is contingent upon verification and description of clinical benefit in a post-marketing clinical trial.

In addition, if FDA determines that a REMS is necessary to ensure that the benefits of the product outweigh the risks, a sponsor may be required to include a proposed REMS (either as part of the application or after approval), which may include a patient package insert or a medication guide to provide information to consumers about the product's risks and benefits; a plan for communication to healthcare providers; or conditions on the product's prescribing or distribution referred to as elements to assure safe use. Xyrem and Xywav are required to have a REMS. For more discussion regarding the Xyrem and Xywav REMS, see the risk factors under the headings "*The distribution and sale of our oxybate products are subject to significant regulatory restrictions, including the requirements of a REMS, and these regulatory requirements subject us to risks and uncertainties, any of which could negatively impact sales of Xyrem and Xywav*" and "Risks Related to Our Intellectual Property" in Part I, Item 1A of this Annual Report on Form 10-K.

The EU and many individual countries have regulatory structures similar to the U.S. for conducting preclinical and clinical testing and applying for marketing approval or authorization, although specifics may vary widely from country to country. Clinical trials in the EU must be conducted in accordance with the requirements of the EU Clinical Trials Directive, which may be replaced with the new EU Clinical Trials Regulation in 2022, and applicable good clinical practice standards. In the EU, there are several procedures for requesting marketing authorization which can be more efficient than applying for authorization on a country-by-country basis. There is a "centralized" procedure allowing submission of a single marketing authorization application to the European Medicines Agency, or EMA. If the EMA issues a positive opinion, the EC will grant a centralized marketing authorization that is valid in all EU member states and three of the four European Free Trade Association countries (Iceland, Liechtenstein and Norway). The centralized procedure is mandatory for certain medicinal products, including orphan medicinal products and biotechnology-derived medicinal products, and optional for others. There is also a "decentralized" procedure allowing companies to file identical applications to several EU member states simultaneously for product candidates that have not yet been authorized in any EU member state and a "mutual recognition" procedure allowing companies that have a product already authorized in one EU member state to apply for that authorization to be recognized by the competent authorities in other EU member states. The UK's withdrawal from the EU on January 31, 2020, commonly referred to as Brexit, has, however, created significant uncertainty concerning the future relationship between the UK and the EU. The impact of Brexit on the on-going validity in the UK of current EU authorizations for medicinal products,

whether granted through the centralized procedure, decentralized procedure, or mutual recognition, and on the future process for obtaining marketing authorization for pharmaceutical products manufactured or sold in the UK remains uncertain. In December 2020, the EU and UK reached an agreement in principle on the framework for their future relationship, the EU-UK Trade and Cooperation Agreement, or TCA. The TCA primarily focuses on ensuring free trade between the EU and the UK in relation to goods, including medicinal products. Although the body of the TCA includes general terms which apply to medicinal products, greater detail on sector-specific issues is provided in an Annex to the TCA. The Annex provides a framework for the recognition of Good Manufacturing Practice, or GMP, inspections and for the exchange and acceptance of official GMP documents. The regime does not, however, extend to procedures such as batch release certification. Among the changes that will now occur are that Great Britain (England, Scotland and Wales) will be treated as a third country. Northern Ireland will, with regard to EU regulations, continue to follow the EU regulatory rules. As part of the TCA, the EU and the UK will recognize GMP inspections carried out by the other party and the acceptance of official GMP documents issued by the other party. The TCA also encourages, although it does not oblige, the parties to consult one another on proposals to introduce significant changes to technical regulations or inspection procedures. Among the areas of absence of mutual recognition are batch testing and batch release. The UK has unilaterally agreed to accept EU batch testing and batch release for a period of at least 2 years until January 1, 2023. However, the EU continues to apply EU laws that require batch testing and batch release to take place in the EU territory. This means that medicinal products that are tested and released in the UK must be retested and re-released when entering the EU market for commercial use. As regards marketing authorizations, Great Britain will have a separate regulatory submission process, approval process and a separate national marketing authorization. Northern Ireland will, however, continue to be covered by the marketing authorizations granted by the EC.

The maximum timeframe for the evaluation of an application in the EU under the centralized procedure is 210 days, subject to certain exceptions and clock stops. An initial marketing authorization granted in the EU is valid for five years, with renewal subject to re-evaluation of the risk-benefit profile of the product. Once renewed, the authorization is usually valid for an unlimited period unless the national competent authority or the EC decides on justified grounds to proceed with one additional five-year renewal.

In the EU, if an applicant can demonstrate that comprehensive data on the efficacy and safety of the product under normal conditions of use cannot be provided due to certain specified objective and verifiable reasons, products may be granted marketing authorization "under exceptional circumstances." A marketing authorization granted under exceptional circumstances is valid for five years, subject to an annual reassessment of conditions imposed by the EC. The marketing authorization in the EU for Defitelio was granted under exceptional circumstances because it was not possible to obtain complete information about the product due to the rarity of the disease and because ethical considerations prevented conducting a study directly comparing Defitelio with best supportive care or a placebo. As a result, the marketing authorization requires us to comply with a number of post-marketing obligations, including obligations relating to the manufacture of the drug substance and finished product, the submission of data concerning patients treated with the product collected through a third-party patient registry and the establishment of a multi-center, multinational and prospective observational patient registry to investigate the long-term safety, health outcomes and patterns of utilization of Defitelio during normal use. We are in the process of conducting the post-authorization study in the EU to provide further data on long-term safety, health outcomes and patterns of utilization of Defitelio in normal use.

Similar to the use of REMS in the U.S. to ensure that the benefits of a product outweigh its risks, in the EU and other countries we are required and may, in the future in relation to new products, be required to agree to post-marketing obligations in the marketing authorization for our products, to include a patient package insert or a medication guide to provide information to consumers about the product's risks and benefits, to implement a plan for communication to healthcare providers, and to impose restrictions on the product's distribution. For example, the marketing authorization in the EU for Vyxeos requires us to comply with certain manufacturing-related post-approval commitments.

After approval, certain changes to the approved product, such as adding new indications, making certain manufacturing changes, modifying a REMS, or making certain additional labeling claims, are subject to further regulatory review and approval. Obtaining approval for a new indication generally requires that additional clinical studies be conducted to demonstrate that the product is safe and effective for the new intended use. Such regulatory reviews can result in denial or modification of the planned changes, or requirements to conduct additional tests or evaluations that can substantially delay or increase the cost of the planned changes.

Manufacture of Pharmaceutical Products

The manufacturing process for pharmaceutical products is highly regulated, and regulators may shut down manufacturing facilities that they believe do not comply with regulations. We and the third party suppliers of our products are subject to cGMP, which are extensive regulations governing manufacturing processes, stability testing, recordkeeping and quality standards as defined by FDA, the EC, the EMA, competent authorities of EU member states and other regulatory authorities. FDA also periodically inspects manufacturing facilities and the sponsor's and manufacturer's records related to manufacturing, and assesses compliance with cGMP. Following such inspections, FDA may issue notices on Form FDA 483 and warning

letters. For example, FDA issued a warning letter to PBL, the Erwinaze manufacturer, in January 2017 indicating that it was not satisfied with PBL's responses to a Form 483 issued to PBL and citing significant violations of cGMP for finished pharmaceuticals and significant deviations from cGMP for APIs. As recently as August 2018, FDA conducted an inspection of the PBL manufacturing facility and issued an FDA Form 483 to PBL citing observations related to items referenced in the existing warning letter as well as other manufacturing practices, including data and records management. In addition to Form FDA 483 notices and warning letters, failure to comply with the statutory and regulatory requirements may result in suspension of manufacturing, product seizure, withdrawal of the product from the market, administrative, civil and criminal penalties, among other enforcement remedies both in the U.S. and in non-U.S. countries.

In the EU, a manufacturing authorization is required to manufacture medicinal products, and the manufacturing authorization holder must comply with various requirements set out in applicable EU laws, regulations and guidance. These requirements include compliance with EU cGMP standards when manufacturing products and their APIs, including APIs manufactured outside of the EU with the intention of importing them into the EU. In addition to inspection reports, manufacturers and marketing authorization holders may be subject to civil, criminal or administrative sanctions, including suspension of manufacturing authorization, in cases of non-compliance with the EU or EU member states' requirements applicable to manufacturing.

Sales and Marketing of Pharmaceutical Products

Advertising and Promotional Activities

FDA regulates advertising and promotional activities for products in the U.S., requiring advertising, promotional materials and labeling to be truthful and not misleading, and products to be marketed only for their approved indications and in accordance with the provisions of the approved label. FDA actively investigates allegations of off-label promotion in order to enforce regulations prohibiting these types of activities. FDA routinely issues informal and more formal communications such as untitled letters or warning letters interpreting its authority over these matters. While such communications may not be considered final agency decisions, many companies may decide not to contest the agency's interpretations so as to avoid disputes with FDA, even if they believe the claims they were making to be truthful, not misleading and otherwise lawful.

In the EU, the advertising and promotion of our products are subject to laws governing promotion of medicinal products, interactions with physicians, misleading and comparative advertising and unfair commercial practices. For example, applicable laws require that promotional materials and advertising in relation to medicinal products comply with the product's Summary of Product Characteristics, or SmPC, as approved by the competent authorities in connection with a marketing authorization approval. The SmPC is the document that provides information to physicians concerning the safe and effective use of the product. Promotional activity that does not comply with the SmPC is considered off-label and is prohibited in the EU. Other applicable laws at the EU level and in the individual EU member states also apply to the advertising and promotion of medicinal products, including laws that prohibit the direct-to-consumer advertising of prescription-only medicinal products and further limit or restrict the advertising and promotion of our products to the general public and to health care professionals. Violations of the rules governing the promotion of medicinal products in the EU could be penalized by administrative measures, fines and imprisonment.

Fraud and Abuse

We are also subject to numerous fraud and abuse laws and regulations globally. In the U.S., there are a variety of federal and state laws restricting certain marketing practices in the pharmaceutical industry pertaining to healthcare fraud and abuse, including anti-kickback laws and false claims laws. Our sales, marketing, patient support and medical activities may be subject to scrutiny under these laws. The U.S. federal healthcare program Anti-Kickback Statute prohibits, among other things, knowingly and willfully offering, paying, soliciting or receiving anything of value to induce (or in return for) the referral of business, including the purchase, recommendation or prescription of a particular drug reimbursable under Medicare, Medicaid or other federally financed healthcare programs. The statute has been interpreted to apply to arrangements between pharmaceutical companies on one hand and patients, prescribers, purchasers and formulary managers on the other. Although there are a number of statutory exemptions and regulatory safe harbors protecting certain common manufacturer business arrangements and activities from prosecution and administrative sanction, the exemptions and safe harbors are drawn narrowly and are subject to regulatory revision or changes in interpretation by the U.S Department of Justice, or DOJ, and the Office of Inspector General of the U.S. Department of Health and Human Services, or OIG. Practices or arrangements that involve remuneration may be subject to scrutiny if they do not qualify for an exemption or safe harbor. For example, in November 2020, the OIG issued a Special Fraud Alert to highlight certain inherent risks of remuneration related to speaker programs sponsored by drug and device companies, which do not fall under either safe harbor or statutory exception protection. The Special Fraud Alert sent a clear signal that speaker programs will be subject to potentially heightened enforcement scrutiny, in particular for those programs with certain characteristics identified as risk factors by OIG, including meals exceeding modest value or where alcohol is made available; lack of substantive or new content presented; programs held at venues not conducive to the exchange of educational information; repeat attendees or attendees without a legitimate business interest; sales or

marketing influence on speaker selection; and excessive speaker compensation. Violations of the federal Anti-Kickback Statute may be established without providing specific intent to violate the statute, and may be punishable by civil, criminal, and administrative fines and penalties, damages, imprisonment, and/or exclusion from participation in federal healthcare programs.

The federal civil False Claims Act prohibits, among other things, any person from knowingly presenting, or causing to be presented, a false or fraudulent claim for payment of federal funds, or knowingly making, or causing to be made, a false statement to get a false claim paid. A claim resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim. The False Claims Act also permits a private individual acting as a "whistleblower" to bring actions on behalf of themselves and the federal government alleging violations of the statute and to share in any monetary recovery. Violations of the False Claims Act may result in significant financial penalties (including mandatory penalties on a per claim or statement basis), treble damages and exclusion from participation in federal health care programs.

Pharmaceutical companies are subject to other federal false claim and statements laws, some of which extend to non-government health benefit programs. For example, the healthcare fraud provisions under the Health Insurance Portability and Accountability Act of 1996 and its implementing regulations, or HIPAA, impose criminal liability for, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud any health care benefit program, including private third party payors, or falsifying or covering up a material fact or making any materially false or fraudulent statement in connection with the delivery of or payment for health care benefits, items or services. Violations of HIPAA fraud provisions may result in criminal, civil and administrative penalties, fines and damages, including exclusion from participation in federal healthcare programs.

The majority of individual states also have statutes or regulations similar to the federal anti-kickback law and the False Claims Act, which apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payor. Other states restrict whether and when pharmaceutical companies may provide meals to health care professionals or engage in other marketing-related activities, and certain states and cities require identification or licensing of sales representatives.

Other Post-Approval Pharmaceutical Product Regulation

Safety Reporting/Pharmacovigilance

FDA, the EMA and other governmental authorities track information on side effects and adverse events reported during clinical studies and after marketing approval. We are required to file periodic safety update reports with the authorities concerning adverse events. If, upon review, an authority determines that any events and/or reports indicate a trend or signal, they can require a change in a product label, restrict sales and marketing, require post-approval safety studies, require a labor intensive collection of data regarding the risks and benefits of marketed products and ongoing assessments of those risks and benefits and/or require or conduct other actions, potentially including withdrawal or suspension of the product from the market. For example, if the EMA has concerns that the risk-benefit profile of a product has changed, it can, following an investigation procedure, adopt an opinion advising that the existing marketing authorization for the product be varied or suspended and requiring the marketing authorization holder to conduct post-authorization safety studies. The opinion is then submitted for approval by the EC. Also, from time to time, FDA issues drug safety communications on its adverse event reporting system based on its review of reported adverse events.

FDA and the competent authorities of the EU member states on behalf of the EMA also periodically inspect our records related to safety reporting. Following such inspections, FDA may issue notices on FDA Form 483 and warning letters that could cause us to modify certain activities. An FDA Form 483 notice, if issued, can list conditions FDA investigators believe may have violated relevant FDA regulations or guidance. Failure to adequately and promptly correct the observation(s) can result in a warning letter or other regulatory enforcement action. Similarly, the EMA's Pharmacovigilance Risk Assessment Committee may propose to the Committee for Medicinal Products for Human Use that the marketing authorization holder be required to take specific steps. Non-compliance can lead to the variation, suspension or withdrawal of marketing authorization or imposition of financial penalties or other enforcement measures.

Sunshine Act and Transparency Laws

The Physician Payment Sunshine Act requires tracking of payments and transfers of value to physicians and teaching hospitals and ownership interests held by physicians and their families, and reporting to the federal government and public disclosure of these data. Beginning in 2022, reporting will also be required of information regarding payments and transfers of value provided to physician assistants, nurse practitioners, clinical nurse specialists, certified nurse anesthetists, and certified nurse-midwives. A number of states now require pharmaceutical companies to report expenses relating to the marketing and promotion of pharmaceutical products and to report gifts and payments to healthcare providers in the states. Government agencies and private entities may inquire about our marketing practices or pursue other enforcement activities based on the disclosures in those public reports.

Outside the U.S., interactions between pharmaceutical companies and physicians are also governed by strict laws, regulations, industry self-regulation codes of conduct and physicians' codes of professional conduct. The provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order or use of medicinal products, which is prohibited in the EU, is governed by the national anti-bribery laws of the EU member states, as described below in "Business—Government Regulation—Anti-Corruption Legislation" in this Part I, Item 1. Violation of these laws could result in substantial fines and imprisonment. Certain EU member states, or industry codes of conduct, require that payments made to physicians be publicly disclosed. Moreover, agreements with physicians must often be the subject of prior notification and approval by the physician's employer, his/her competent professional organization, and/or the competent authorities of the individual EU member states. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines or imprisonment.

Controlled Substance Regulations

A drug product approved by FDA may be subject to scheduling as a controlled substance under the CSA depending on the drug's potential for abuse. Controlled substances that are pharmaceutical products are subject to a high degree of regulation under the CSA, which establishes, among other things, certain registration, manufacturing quotas, security, recordkeeping, reporting, import, export and other requirements administered by the DEA. The DEA classifies controlled substances into five schedules. Schedule I substances by definition have a high potential for abuse, have no currently "accepted medical use" in the U.S., lack accepted safety for use under medical supervision, and may not be prescribed, marketed or sold in the U.S. Pharmaceutical products approved for use in the U.S. may be listed as Schedule II, III, IV or V, with Schedule II substances considered to present the highest potential for abuse or dependence and Schedule V substances the lowest relative risk of abuse. The API of Xyrem and Xywav, oxybate salts, are regulated by the DEA as Schedule I controlled substances, and Xyrem and Xywav are regulated as Schedule III controlled substances. The API of Sunosi, solriamfetol, and Sunosi are regulated as Schedule IV controlled substances. Individual countries also impose similar requirements for controlled substances.

The DEA limits the quantity of certain Schedule I controlled substances that may be manufactured and procured in the U.S. in any given calendar year through a quota system and, as a result, quotas from the DEA are required in order to manufacture and package sodium oxybate and Xyrem in the U.S. Accordingly, we require DEA quotas for Siegfried, our U.S.-based sodium oxybate supplier, to procure sodium oxybate and for Patheon, our U.S.-based Xyrem supplier, to obtain the sodium oxybate from Siegfried in order to manufacture and supply us with Xyrem. Xyrem and Xywav manufactured at our plant in Ireland enters the U.S. as a Schedule III drug and thus does not require a manufacturing quota.

As Schedule III drugs, Xyrem and Xywav are also subject to DEA import volume limits and state regulations relating to manufacturing, storage, distribution and physician prescription procedures, including limitations on prescription refills. In addition, the third parties who perform our clinical and commercial manufacturing, distribution, dispensing and clinical studies for Xyrem and Xywav are required to maintain necessary DEA registrations and state licenses. The DEA periodically inspects facilities for compliance with its rules and regulations.

Other Regulations

There are many other requirements and restrictions in the U.S. and elsewhere imposed on pharmaceutical companies and their activities, including those related to the posting of information relating to clinical studies and their outcomes, the export and importation of products, required authorizations for distributors, the identification or licensing of sales representatives, restrictions on the ability of manufacturers to offer co-pay support to patients for certain prescription drugs, implementation of required compliance programs or marketing codes of conduct, protection of the environment, taxation and work safety. Non-compliance with such requirements may result in civil, criminal or administrative sanctions.

Anti-Corruption Legislation

Our business activities outside of the U.S. are subject to the U.S. Foreign Corrupt Practices Act, or FCPA, and similar anti-bribery or anti-corruption laws, regulations, industry self-regulation codes of conduct and physicians' codes of professional conduct or rules of other countries in which we operate, including the UK Bribery Act of 2010, or the UK Bribery Act. The FCPA and similar anti-corruption laws in other countries generally prohibit the offering, promising, giving, or authorizing others to give anything of value, either directly or indirectly, to U.S. or non-U.S. government officials in order to improperly influence any act or decision, secure an improper advantage, or obtain or retain business. The FCPA also requires public companies to make and keep books and records that accurately and fairly reflect the transactions of the company and to devise and maintain an adequate system of internal accounting controls. The UK Bribery Act prohibits giving, offering, or promising bribes to any person, including UK and non-UK government officials and private persons, as well as requesting, agreeing to receive, or accepting bribes from any person. In addition, under the UK Bribery Act, companies that carry on a business or part of a business in the UK may be held liable for bribes given, offered or promised to any person, including UK and non-UK government officials and private persons in any country, by employees and persons associated with the company in order to obtain or retain business or a business advantage for the company. Liability is strict, with no element of a corrupt state of mind, but a defense of having in place adequate procedures designed to prevent bribery is available. As described above, our business

is heavily regulated and therefore involves significant interaction with government officials in many countries. Additionally, in certain countries, the health care providers who prescribe pharmaceuticals are employed by their government, and the purchasers of pharmaceuticals are government entities; therefore, our dealings with these prescribers and purchasers may be subject to the FCPA, the UK Bribery Act and similar laws. Recently the Securities and Exchange Commission, or SEC, and the DOJ have increased their FCPA enforcement activities with respect to pharmaceutical companies. In addition, under the Dodd-Frank Wall Street Reform and Consumer Protection Act, private individuals who report to the SEC original information that leads to successful enforcement actions may be eligible for a monetary award. We engage in ongoing efforts designed to ensure our compliance with these laws, including due diligence, training, policies, procedures, and internal controls. However, there is no certainty that all employees and third party business partners (including our distributors, wholesalers, agents, contractors, and other partners) will comply with anti-bribery laws. In particular, we do not control the actions of our suppliers and other third party agents, although we may be liable for their actions. Violation of these laws may result in civil or criminal sanctions, which could include monetary fines, criminal penalties, and disgorgement of past profits.

Data Protection and Privacy

We are subject to data protection and privacy laws and regulations globally, which restrict the processing of personal data. The legislative and regulatory landscape for privacy and data security continues to evolve with an increased attention in countries globally that could potentially affect our business. In particular, we are subject to the EU General Data Protection Regulation, which became effective on May 25, 2018 and imposes penalties up to 4% of annual global turnover and the California Consumer Privacy Act of 2018, which became effective on January 1, 2020. These laws and regulations applicable to our business, increase potential enforcement and litigation activity. In order to manage these evolving risks, we have adopted a global privacy program that governs the processing of personal data across our business.

Marketing Exclusivity

The Hatch-Waxman Act

The marketing approval process described above for the U.S. is premised on the applicant being the owner of, or having obtained a right of reference to, all of the data required to prove the safety and effectiveness of a drug product. This type of marketing application, sometimes referred to as a "full" or "stand-alone" NDA, is governed by Section 505(b)(1) of the United States Federal Food, Drug, and Cosmetic Act, or FDCA. A Section 505(b)(1) NDA contains full reports of investigations of safety and effectiveness, which includes the results of preclinical and clinical trials, together with detailed information on the manufacture and composition of the product, in addition to other information. As an alternative, the Drug Price Competition and Patent Term Restoration Act of 1984, or the Hatch-Waxman Act, provides two abbreviated approval pathways for certain drug products.

The first path, under Section 505(b)(2) of the FDCA, usually is used for the approval of a product that is similar, but not identical, to a previously-approved brand-name product, referred to as the reference listed drug, or RLD. Under this path, the applicant is permitted to rely to some degree on FDA's finding that the RLD is safe and effective and must submit its own product-specific data on safety and effectiveness only to the extent necessary to bridge the differences between the products. The second abbreviated path established under the Hatch-Waxman Act is for the approval of generic drugs. Section 505(j) of the FDCA permits the submission of an ANDA for a generic version of an approved, brand-name drug. Generally, an ANDA must contain data and information showing that the proposed generic product and the RLD (i) have the same active ingredient, in the same strength and dosage form, to be delivered via the same route of administration, (ii) are intended for the same uses, and (iii) are bioequivalent. This data and information are provided instead of data and information independently demonstrating the proposed generic product's safety and effectiveness.

The Hatch-Waxman Act requires an ANDA or a Section 505(b)(2) NDA applicant to certify that there are no patents listed for that product in the Orange Book, or that for each Orange Book-listed patent either the listed patent has expired, the listed patent will expire on a particular date and approval is sought after patent expiration, or the listed patent is invalid or will not be infringed by the manufacture, use or sale of the new product. A certification that approval is sought after patent expiration is called a "Paragraph III Certification." A certification that the new product will not infringe the RLD's Orange Book-listed patents, or that such patents are invalid, is called a "Paragraph IV Certification." If a relevant patent covers an approved method of use, an ANDA or Section 505(b)(2) NDA applicant can also file a statement, called, in the case of an ANDA, a "section viii statement," that the application does not seek approval of the method of use covered by the listed patent. With such a statement, the applicant must "carve out" the protected method of use (typically an indication and related material) from the proposed product's labeling. If the applicant makes a Paragraph III Certification, the ANDA or the Section 505(b)(2) NDA will not be approved until the listed patents claiming the RLD have expired.

If the applicant has provided a Paragraph IV Certification to FDA, the applicant must also send a notice of that certification to the NDA holder and the relevant patent holders once FDA accepts the ANDA or the Section 505(b)(2) NDA for filing. The NDA and patent holders then have 45 days to initiate a patent infringement lawsuit. Filing the lawsuit triggers an automatic stay on FDA's approval of the ANDA or the Section 505(b)(2) NDA until the earliest of 30 months after the NDA

holder's receipt of the notice of Paragraph IV Certification, expiration of the patent, certain settlements of the lawsuit, or a decision in the infringement case that is favorable to the applicant. FDA may issue tentative approval of an application if the application meets all conditions for approval but cannot receive effective approval because the 30-month stay or another period of regulatory exclusivity has not expired. If an ANDA or Section 505(b)(2) NDA is approved before conclusion of any relevant patent litigation, the applicant can choose to launch the product, but does so "at risk" of being liable for damages, and potentially treble damages, if the RLD sponsor or patent holder ultimately prevails in patent litigation.

Under the Hatch-Waxman Act, newly approved drugs and indications may benefit from statutory periods of non-patent marketing exclusivity that can potentially delay review or approval of an ANDA or Section 505(b)(2) application. For example, the Hatch-Waxman Act provides five-year marketing exclusivity to the first applicant to gain approval of an NDA for a new chemical entity, meaning a drug containing an active moiety that FDA has not previously approved. During this period, FDA cannot accept for review an ANDA or a Section 505(b)(2) NDA for a product containing the same moiety, except that an application containing a Paragraph IV Certification may be submitted after four years, which may trigger the litigation and stay described above. The Hatch-Waxman Act also provides three years of marketing exclusivity with the approval of an NDA, including a Section 505(b)(2) NDA, for a product containing a previously-approved moiety but that incorporates a change (such as a new indication, dosage form or strength) from an approved product with the same moiety, if the change required clinical data from new investigations that were conducted or sponsored by the applicant. This three-year exclusivity does not preclude submission of the ANDA or Section 505(b)(2) NDA for such a product, but prevents FDA from giving final approval to such product.

The Hatch-Waxman Act also permits a patent term extension of up to five years (but not beyond 14 years from the date of approval) for an NDA, including a Section 505(b)(2) NDA, that is approved for a product that contains an active ingredient that has not previously been approved. The extension, which compensates for patent term lost during product development and FDA regulatory review process, is generally equal to the sum of one-half the time between the effective date of an IND application and the submission date of an NDA, and all of the time between the submission date of an NDA and the approval of that application. It is available for only one patent for a given product, and it must be a patent that claims the product or a method of using or manufacturing the product. The USPTO, in consultation with FDA, reviews and approves applications for patent term extension.

In the EU, innovative medicinal products that are subject to marketing authorization on the basis of a full dossier qualify for eight years' data exclusivity upon marketing authorization and an additional two years' market exclusivity. Data exclusivity prevents regulatory authorities in the EU from referencing the innovator's data to assess a generic application or biosimilar application for eight years from the date of authorization of the innovative product, after which a generic or biosimilar marketing authorization application can be submitted, and the innovator's data may be referenced. However, the generic product or biosimilar products cannot be marketed in the EU for a further two years thereafter. The overall ten-year period may be extended for a further year to a maximum of 11 years if, during the first eight years of those ten years, the marketing authorization holder obtains an authorization for one or more new therapeutic indications which, during the scientific evaluation prior to their authorization, are held to bring a significant clinical benefit in comparison with existing therapies.

Orphan Drug and Other Exclusivities

Some jurisdictions, including the U.S., may designate drugs or biologics for relatively small patient populations as orphan drugs. FDA grants orphan drug designation to drugs or biologics intended to treat a rare disease or condition, which is one that affects fewer than 200,000 individuals in the U.S., or more than 200,000 individuals, but for which there is no reasonable expectation that the cost of developing the product and making it available in the U.S. for the disease or condition will be recovered from U.S. sales of the product. Orphan drug designation does not shorten the duration of the regulatory review process or lower the approval standards, but can provide important benefits, including consultation with FDA. If a product is approved for its orphan designated use, it may be entitled to orphan drug exclusivity, which blocks FDA from approving for seven years any other application for a product that is the same drug for the same indication. If there is a previously-approved product that is the same drug for the same indication, orphan drug designation requires the sponsor to provide a plausible hypothesis of clinical superiority over the approved product, whereas orphan drug exclusivity requires the sponsor to actually demonstrate clinical superiority. Clinical superiority can be established by way of greater efficacy, greater safety, or making a major contribution to patient care. Additionally, a later product can be approved if the sponsor holding orphan drug exclusivity consents, or cannot adequately supply the market. Orphan drug exclusivity does not prevent approval of another sponsor's application for different indications or uses of the same drug, or for different drugs for the same indication. Defibrotide has been granted orphan drug exclusivity by FDA to treat and prevent VOD until March 2023. Vyxeos has been granted orphan drug exclusivity by FDA for the treatment of AML until August 2024.

Biologic products approved under a BLA are subject to the BPCIA, which authorizes an abbreviated approval pathway for a biological product that is "biosimilar" to an already approved biologic, or reference product. The BPCIA provides periods of exclusivity that protect a reference product from competition by biosimilars. FDA may not accept a biosimilar application for review until four years after the date of first licensure of the reference product, and the biosimilar cannot be licensed until 12

years after the reference product was first licensed. We believe that Erwinaze, which was approved under a BLA in November 2011, is subject to an exclusivity period that will prevent approval of a biosimilar in the U.S. into November 2023.

Under certain circumstances, the exclusivity periods applicable to drugs and biologics and the patent-related protections applicable to drugs may be eligible for a six-month extension if the sponsor submits pediatric data that fairly respond to a written request from FDA for such data. This exclusivity may be granted even if the data does not support a pediatric indication. We consider seeking pediatric exclusivity for our products whenever appropriate. For example, in response to a written request from FDA, we conducted a Phase 3 clinical trial to assess the safety and efficacy of Xyrem in children and adolescents aged seven to 17 who have narcolepsy with cataplexy, and submitted study results in a supplement to the Xyrem NDA, seeking approval for this indication. In October 2018, FDA approved the sNDA and notified us that we had been granted pediatric exclusivity, extending by six months the preclusive effect of our Orange Book-listed patents for Xyrem, as well as the three-year regulatory exclusivity period granted to the Xyrem pediatric indication because of the clinical studies that were necessary for approval of the sNDA.

In the EU, orphan drug designation may be granted to products that can be used to treat life-threatening diseases or chronically debilitating conditions with an incidence of no more than five in 10,000 people or that, for economic reasons, would be unlikely to be developed without incentives. Orphan designated medicinal products are entitled to a range of benefits during the development and regulatory review process and ten years of market exclusivity in all EU member states upon approval. As in the U.S., a similar medicinal product with the same orphan indication may be approved, notwithstanding orphan product exclusivity, if the exclusivity holder gives consent or if the manufacturer of the original orphan medicinal product is unable to supply sufficient quantities. Marketing authorization may also be granted to a similar medicinal product with the same orphan indication if the similar product is deemed safer, more effective or otherwise clinically superior to the original orphan medicinal product. The period of market exclusivity granted in relation to the original orphan medicinal product may, in addition, be reduced to six years if it can be demonstrated on the basis of available evidence that the original orphan medicinal product is sufficiently profitable not to justify maintenance of market exclusivity. Defibrotide has been granted orphan drug designation by the EC and the Korean Ministry of Food and Drug Safety to treat and prevent VOD, by the Commonwealth of Australia-Department of Health for the treatment of VOD and by the EC for the prevention of aGvHD. Vyxeos has been granted orphan drug designation by the EC until August 2028.

Pharmaceutical Pricing, Reimbursement by Government and Private Payors and Patient Access

Pricing and Reimbursement

Successful commercialization of our products depends in significant part on adequate financial coverage and reimbursement from third party payors, including governmental payors (such as the Medicaid and Medicare programs in the U.S.), managed care organizations and private health insurers. Third party payors decide which drugs will be reimbursed and establish reimbursement and co-pay levels and conditions for reimbursement. Third party payors are increasingly challenging the prices charged for medical products and services by examining their cost effectiveness, as demonstrated in pharmacoeconomic and/or clinical studies, in addition to their safety and efficacy. In some cases, for example, third party payors try to encourage the use of less expensive products, when available, through their prescription benefits coverage and reimbursement, co-pay and prior authorization policies. The process for determining whether a payor will provide coverage for a product may be separate from the process for setting the price or reimbursement rate that the payor will pay for the product once coverage is approved. Third party payors may require prior approval before covering a specific product, or may require patients and health care providers to try other covered products first. Third party payors may also limit coverage to specific products on an approved list, or formulary, which might not include all of the approved products for a particular indication. For certain categories of products, third party payors, principally through contracted pharmacy benefit managers, or PBMs, negotiate rebates with drug manufacturers for inclusion of products on their formularies in specific positions or coverage criteria. Beginning in the third quarter of 2019, we have been entering into agreements with certain PBMs to provide rebates for our products where coverage was provided and products were listed in certain formulary positions, among other conditions. We expect to enter into additional agreements in 2021.

Medicaid is a joint federal and state program that is administered by the states for low-income and disabled beneficiaries. Medicare is a federal program that is administered by the federal government covering individuals age 65 and over as well as those with certain disabilities. Medicare Part B pays physicians who administer our products. Under the Medicaid Drug Rebate program, as a condition of having federal funds made available to the states for our drugs under Medicare Part B, we are required to pay a rebate to each state Medicaid program for our covered outpatient drugs that are dispensed to Medicaid beneficiaries and paid for by a state Medicaid program. Medicaid rebates are based on pricing data we report on a monthly and quarterly basis to the U.S. Centers for Medicare & Medicaid Services, or CMS, the federal agency that administers the Medicaid Drug Rebate program and Medicare. These data include the average manufacturer price and, in the case of innovator products, the best price for each drug which, in general, represents the lowest price available from the manufacturer to any entity in the U.S. in any pricing structure, calculated to include all applicable sales and associated rebates, discounts and other price concessions. If we become aware that our reporting for a prior quarter was incorrect, or has changed as a result of

recalculation of the pricing data, we are obligated to resubmit the corrected data for up to three years after those data originally were due. We are required to provide average sales price, or ASP, information for certain of our products to CMS on a quarterly basis. The ASP is calculated based on a statutorily defined formula as well as regulations and interpretations of the statute by CMS. This information is used to compute Medicare payment rates, with rates for Medicare Part B drugs outside the hospital outpatient setting and in the hospital outpatient setting consisting of ASP plus a specified percentage.

Federal law requires that any company that participates in the Medicaid Drug Rebate program also participate in the Public Health Service's 340B program, or the 340B program, in order for federal funds to be available for the manufacturer's drugs under Medicaid and Medicare Part B. The 340B program, which is administered by the Health Resources and Services Administration, or HRSA, requires participating manufacturers to agree to charge statutorily defined covered entities no more than the 340B "ceiling price" for the manufacturer's covered drugs used in an outpatient setting. These 340B covered entities include a variety of community health clinics and other entities that receive health services grants from the Public Health Service, as well as hospitals that serve a disproportionate share of low-income patients. The 340B ceiling price is calculated using a statutory formula, which is based on the average manufacturer price and rebate amount for the covered outpatient drug as calculated under the Medicaid Drug Rebate program, and in general, products subject to Medicaid price reporting and rebate liability are also subject to the 340B ceiling price calculation and discount requirement. A regulation regarding the calculation of the 340B ceiling price and the imposition of civil monetary penalties on manufacturers that knowingly and intentionally overcharge covered entities became effective on January 1, 2019. We also are required to report our 340B ceiling prices to HRSA on a quarterly basis and HRSA then publishes them to 340B covered entities. In addition, legislation may be introduced that, if passed, would further expand the 340B program to additional covered entities or would require participating manufacturers to agree to provide 340B discounted pricing on drugs used in an inpatient setting.

In order to be eligible to have our products paid for with federal funds under the Medicaid and Medicare Part B programs and purchased by certain federal agencies and grantees, we also participate in the U.S. Department of Veterans Affairs, or VA, Federal Supply Schedule, or FSS, pricing program. Under this program, we are obligated to make our products available for procurement on an FSS contract under which we must comply with standard government terms and conditions and charge a price to certain federal agencies that is no higher than the statutory Federal Ceiling Price, or FCP. The FCP is based on the non-federal average manufacturer price, or Non-FAMP, which we calculate and report to the VA on a quarterly and annual basis. We also participate in the Tricare Retail Pharmacy program, under which we pay quarterly rebates on utilization of innovator products that are dispensed through the Tricare Retail Pharmacy network to Tricare beneficiaries. The rebates are calculated as the difference between the annual Non-FAMP and FCP. Pricing and rebate calculations vary across products and programs, are complex, and are often subject to interpretation by us, governmental or regulatory agencies and the courts, which can change and evolve over time.

In addition, in the U.S., drug pricing by pharmaceutical companies is currently, and is expected to continue to be, under close scrutiny, including with respect to companies that have increased the price of products after acquiring those products from other companies. There are numerous ongoing efforts at the federal and state level seeking to indirectly or directly regulate drug prices to reduce overall healthcare costs using tools such as price ceilings, value-based pricing and increased transparency and disclosure obligations. Several states have passed or are considering legislation that requires or purports to require companies to report pricing information, including proprietary pricing information. For example, in 2017, California adopted a prescription drug price transparency state bill requiring advance notice of and an explanation for price increases of certain drugs that exceed a specified threshold. Similar bills have been previously introduced at the federal level and additional legislation could be introduced this year.

Similar to what is occurring in the U.S., political, economic and regulatory developments outside of the U.S. are also subjecting the healthcare industry to fundamental changes and challenges. Pressure by governments and other stakeholders on prices and reimbursement levels continue to exist. In various EU member states we expect to be subject to continuous cost-cutting measures, such as lower maximum prices, lower or lack of reimbursement coverage and incentives to use cheaper, usually generic, products as an alternative. Health technology assessment, or HTA, of medicinal products is becoming an increasingly common part of the pricing and reimbursement procedures in some EU member states, including countries representing major markets. The HTA process, which is governed by the national laws of these countries, is the procedure according to which the assessment of the public health impact, therapeutic impact and the economic and societal impact of use of a given medicinal product in the national healthcare systems of the individual country is conducted. HTA generally compares attributes of individual medicinal products, as compared with other treatment options available on the market. The outcome of HTA regarding specific medicinal products will often influence the pricing and reimbursement status granted to these medicinal products by the competent authorities of individual EU member states. On January 31, 2018, the EC adopted a proposal for an HTA regulation intended to boost cooperation among EU member states in assessing health technologies, including new medicinal products. The proposal, which currently continues its progress through the EU adoption process, provides that EU member states will be able to use common HTA tools, methodologies, and procedures across the EU. Individual EU member states will continue to be responsible for assessing non-clinical (e.g., economic, social and ethical) aspects of health technologies, and making decisions on pricing and reimbursement.

In the EU, our products are marketed through various channels and within different legal frameworks. The making available or placing on the EU market of unauthorized medicinal products is generally prohibited. However, the competent authorities of the EU member states may exceptionally and temporarily allow and reimburse the supply of such unauthorized products, either on a named patient basis or through a compassionate use process, to individual patients or a group of patients with a chronically or seriously debilitating disease or whose disease is considered to be life-threatening, and who cannot be treated satisfactorily by an authorized medicinal product. Such reimbursement may no longer be available if authorization for named patient or compassionate use programs expire or is terminated or if marketing authorization is granted for the product. In some EU member states, authorization and reimbursement policies may also delay commercialization of our products, or may adversely affect our ability to sell our products on a profitable basis. After initial price and reimbursement approvals, reductions in prices and changes in reimbursement levels can be triggered by multiple factors, including reference pricing systems and publication of discounts by third party payors or authorities in other countries. In the EU, prices can be reduced further by parallel distribution and parallel trade, or arbitrage between low-priced and high-priced EU member states.

For more information, including with respect to recent legal developments regarding the Medicaid Drug Rebate program, Medicare Part B, and the 340B program, see the risk factors under the headings "*Adequate coverage and reimbursement from third party payors may not be available for our products and we may be unable to successfully contract for coverage from pharmacy benefit managers and group purchasing organizations, which could diminish our sales or affect our ability to sell our products profitably; conversely, to secure coverage from these organizations, we may be required to pay rebates or other discounts or other restrictions to reimbursement that could diminish our sales,"* "*The pricing of pharmaceutical products has come under increasing scrutiny as part of a global trend toward healthcare cost containment and resulting changes in healthcare law and policy may impact our business in ways that we cannot currently predict, which could have a material adverse effect on our business and financial condition"* and *"If we fail to comply with our reporting and payment obligations under the Medicaid Drug Rebate program or other governmental pricing programs, we could be subject to additional reimbursement requirements, penalties, sanctions and fines, which could have a material adverse effect on our business, financial condition, results of operations and growth prospects"* in Part I, Item 1A of this Annual Report on Form 10-K.

Patient Copay Assistance and Free Product Programs

We have various patient programs to help patients access and pay for our products, including co-pay coupons for certain products, services that help patients determine their insurance coverage for our products, and a free product program. We also make grants to independent charitable foundations that help financially needy patients with their premium, and co-pay and co-insurance obligations. There has been enhanced scrutiny of company-sponsored patient assistance programs, including co-pay assistance programs and donations to third-party charities that provide such assistance, as well as reimbursement support offerings.

The OIG has established guidelines for pharmaceutical manufacturers who make donations to charitable organizations providing co-pay assistance to Medicare patients. Such donations are unlikely to run afoul of the anti-kickback laws provided that the organizations receiving donations, among other things, are *bona fide* charities, are entirely independent of and not controlled by the manufacturer, provide aid to applicants on a first-come basis according to consistent financial criteria, and do not link aid to use of a donor's product. In 2016 and 2017, we received subpoenas from the U.S. Attorney's Office for the District of Massachusetts requesting documents related to our support of charitable organizations that provide financial assistance to Medicare patients. In April 2019, we finalized our civil settlement agreement with the DOJ and OIG, and entered into a corporate integrity agreement requiring us to maintain our ongoing corporate compliance program and obligating us to implement or continue, as applicable, a set of defined corporate integrity activities to ensure compliance with OIG's policies around charitable contributions for a period of five years from the effective date of the corporate integrity agreement.

U.S. Healthcare Reform

The Patient Protection and Affordable Care Act, as amended by the Healthcare and Education Reconciliation Act of 2010, which we refer to together as the Healthcare Reform Act, was intended to expand healthcare coverage within the U.S., primarily through the imposition of health insurance mandates on employers and individuals, the provision of subsidies to eligible individuals enrolled in plans offered on the health insurance exchanges, and the expansion of the Medicaid program. This law has substantially changed the way healthcare is financed by both governmental and private insurers and significantly impacts the pharmaceutical industry. Changes that may affect our business include those governing enrollment in federal healthcare programs, reimbursement changes, benefits for patients within a coverage gap in the Medicare Part D prescription drug program (commonly known as the "donut hole"), rules regarding prescription drug benefits under the health insurance exchanges, changes to the Medicaid Drug Rebate program, expansion of the 340B program, and fraud and abuse and enforcement. These changes have impacted previously existing government healthcare programs and have resulted in the development of new programs, including Medicare payment for performance initiatives.

Certain provisions of the Healthcare Reform Act have been subject to judicial challenges, as well as efforts to repeal or replace them or to alter their interpretation or implementation. For example, the U.S. Tax Cuts and Jobs Act of 2017, signed

into law in December 2017, includes a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment, commonly referred to as the "individual mandate," imposed by the Healthcare Reform Act on certain individuals who fail to maintain qualifying health coverage for all or part of a year. Additional legislative changes, regulatory changes, and judicial challenges related to the Healthcare Reform Act remain possible. The nature and extent of any additional legislative changes, regulatory changes, or judicial challenges to the Healthcare Reform Act are uncertain at this time.

About Jazz Pharmaceuticals plc

Jazz Pharmaceuticals plc was formed under the laws of Ireland (registered number 399192) as a private limited liability company in March 2005 under the name Azur Pharma Limited and was subsequently re-registered as a public limited company under the name Azur Pharma Public Limited Company, or Azur Pharma, in October 2011. On January 18, 2012, the businesses of Jazz Pharmaceuticals, Inc. and Azur Pharma were combined in a merger transaction, in connection with which Azur Pharma was re-named Jazz Pharmaceuticals plc and we became the parent company of and successor to Jazz Pharmaceuticals, Inc.

Our predecessor, Jazz Pharmaceuticals, Inc., was incorporated in California in March 2003 and was reincorporated in Delaware in January 2004.

Available Information

The mailing address of our headquarters is Fifth Floor, Waterloo Exchange, Waterloo Road, Dublin 4, Ireland, and our telephone number at that location is 353-1-634-7800. Our website is www.jazzpharmaceuticals.com.

We file or furnish pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as applicable, our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, amendments to those reports, proxy statements and other information electronically with the SEC. Through a link on our website, we make copies of our periodic and current reports, amendments to those reports, proxy statements and other information available, free of charge, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Information found on, or accessible through, our website is not a part of, and is not incorporated into, this Annual Report on Form 10-K.

Item 1A. Risk Factors

We have identified the following risks and uncertainties that may have a material adverse effect on our business, financial condition or results of operations. The risks described below are not the only ones we face. Additional risks not presently known to us or that we currently believe are immaterial may also significantly impair our business operations. Our business could be harmed by any of these risks. The trading price of our ordinary shares could decline due to any of these risks, and you may lose all or part of your investment. In assessing these risks, you should also refer to the other information contained in this Annual Report on Form 10-K, including our consolidated financial statements and accompanying notes.

Risks Related to the GW Acquisition and the Combined Company Upon Completion of the Acquisition

We may not realize the anticipated benefits and synergies from our proposed acquisition of GW Pharmaceuticals.

On February 3, 2021, we announced that we have entered into a definitive agreement with GW Pharmaceuticals under which our indirect wholly-owned subsidiary, Jazz Pharmaceuticals UK Holdings Limited, agreed to acquire GW Pharmaceuticals. While we and GW Pharmaceuticals will continue to operate independently until the completion of the acquisition, the success of the acquisition will depend, in part, on our ability to realize the anticipated benefits from successfully combining our and GW Pharmaceuticals' businesses and we plan on devoting substantial management attention and resources to integrating our business practices and operations with GW Pharmaceuticals' so that we can fully realize the anticipated benefits of the acquisition. Nonetheless, the products and technologies acquired may not be successful or continue to grow at the same rate as when operated independently or they may require significantly greater resources and investments than originally anticipated. The transaction could also result in the assumption of unknown or contingent liabilities. In addition, difficulties may arise during the process of combining the operations of our companies that could result in the failure to achieve the synergies or free cash flow that we anticipate, the failure to integrate operations and internal systems, programs and controls, the loss of key employees that may be difficult to replace in the very competitive pharmaceutical field, the failure to harmonize both companies' corporate cultures, the disruption of each company's ongoing businesses or inconsistencies in standards, controls, procedures and policies that adversely affect our ability to maintain relationships with customers, suppliers, distributors, collaboration partners, clinical trial investigators or managers of our clinical trials. As a result, the anticipated benefits of the acquisition may not be realized fully within the expected timeframe or at all or may take longer to realize or cost more than expected, which could materially and adversely affect our business, financial condition, results of operations and growth prospects.

The pending acquisition of GW Pharmaceuticals may not be completed on the currently contemplated timeline or terms, or at all; and regulatory bodies could impose certain requirements upon the combined company as a condition to approval that could reduce the anticipated benefits of the transaction.

Consummation of the acquisition is conditioned on, among other things, obtaining necessary shareholder and regulatory approvals and the sanction of the High Court of Justice of England and Wales. In addition, the ongoing COVID-19 pandemic could delay the receipt of certain regulatory approvals and the court sanction. If any condition to the acquisition is not satisfied, it could delay or prevent the acquisition from occurring, which could negatively impact the price of our ordinary shares and future business and financial results. Further, as a condition to their approval of the acquisition, regulatory bodies may impose requirements, limitations or costs or require divestitures or place restrictions on the conduct of the combined business after the closing. These requirements, limitations, costs, divestitures or restrictions could jeopardize or delay the consummation of the acquisition or may reduce the anticipated benefits of the transaction. In addition, changes in laws and regulations could adversely impact our post-acquisition profitability and financial results.

Failure to complete the acquisition of GW Pharmaceuticals could have a material and adverse effect on us.

Either we or GW Pharmaceuticals may terminate the transaction agreement in certain circumstances. If the transactions contemplated by the transaction agreement are not completed, our ongoing business may be adversely affected and, without realizing any of the benefits of having completed the transactions, we will be subject to a number of risks, including the following:

- the market price of our ordinary shares could decline;
- we will be required to pay our costs relating to the transactions, such as legal, accounting, financial advisory and printing fees, whether or not the transactions are completed;
- if the transaction agreement is terminated and our board of directors seeks another acquisition, our shareholders cannot be certain that we will be able to find a party willing to enter into a transaction as attractive to us as the acquisition of GW Pharmaceuticals;
- we could be subject to litigation related to any failure to complete the acquisition or related to any enforcement proceeding commenced against us to perform our obligations under the transaction agreement;
- we will not realize the benefit of the time and resources, financial and otherwise, committed by our management to matters relating to the acquisition that could have been devoted to pursuing other beneficial opportunities; and
- we may experience negative reactions from the financial markets or from our customers, suppliers or employees.

Any of these risks could materially and adversely affect our business, financial condition, results of operations and growth prospects. Similarly, delays in the completion of the acquisition could, among other things, result in additional transaction costs, loss of revenue or other negative effects associated with delay and uncertainty about completion of the acquisition and could materially and adversely affect our business, financial condition, results of operations and growth prospects.

The indebtedness of the combined company following the consummation of the acquisition will be substantially greater than our indebtedness on a standalone basis and greater than the combined indebtedness of Jazz Pharmaceuticals and GW Pharmaceuticals prior to the announcement of the acquisition. This increased level of indebtedness could adversely affect the combined company's business flexibility and increase its borrowing costs.

We expect that the cash consideration due to GW Pharmaceuticals' shareholders under the transaction agreement will be approximately $6.5 billion. In addition to using cash on hand, we expect to incur significant acquisition-related debt financing, including secured term loans and senior secured notes. This substantially increased indebtedness and higher debt to equity ratio following the consummation of the acquisition may have the effect of, among other things, reducing the flexibility of the combined company to respond to changing business and economic conditions, lowering the credit ratings of the combined company, increasing the borrowing costs of the combined company and/or requiring the combined company to reduce or delay investments, strategic acquisitions and capital expenditures or to seek additional capital or restructure or refinance its indebtedness.

Risks Related to Our Lead Products and Product Candidates

Our inability to maintain or increase sales from our neuroscience therapeutic area would have a material adverse effect on our business, financial condition, results of operations and growth prospects.

Our business has been substantially dependent on Xyrem® (sodium oxybate) oral solution, and our financial results have been significantly influenced by sales of Xyrem. Our future plans assume that our newly launched oxybate product, Xywav™,

with 92%, or approximately 1,000 to 1,500 milligrams per day, less sodium than Xyrem, depending on the dose, absence of a sodium warning and dosing titration option, will become the treatment of choice for patients who can benefit from oxybate treatment, current Xyrem patients, and patients who previously were not prescribed Xyrem, including those patients for whom sodium content is a concern. Our ability to successfully commercialize Xywav will depend on, among other things, our ability to obtain and maintain adequate coverage and reimbursement for Xywav and acceptance of Xywav by payors, physicians and patients. Our ability to maintain or increase oxybate product sales and realize the anticipated benefits from our investment in Xywav is subject to a number of additional risks and uncertainties as discussed in greater detail below, including those related to the introduction of authorized generic and generic versions of sodium oxybate and/or new products for treatment of cataplexy and/or excessive daytime sleepiness, or EDS, in narcolepsy in the U.S. market; the current and potential impacts of the COVID-19 pandemic, including the current and expected future negative impact on demand for our products and the uncertainty with respect to our ability to meet commercial demand in the future; increased pricing pressure from, changes in policies by, or restrictions on reimbursement imposed by, third party payors; and challenges to our intellectual property around Xyrem and/or Xywav. While we expect that our business will continue to be substantially dependent on oxybate product sales from both Xyrem and Xywav, there is no guarantee that we can maintain oxybate sales at or near historical levels, or that oxybate sales will continue to grow. A significant decline in oxybate sales could cause us to reduce our operating expenses or seek to raise additional funds, which would have a material adverse effect on our business, financial condition, results of operations and growth prospects, including on our ability to acquire, in-license or develop new products to grow our business.

As for other products and product candidates in our neuroscience therapeutic area, we obtained approval of Sunosi® (solriamfetol) in 2019 in the U.S. and in January 2020 in the European Union, or EU, for the treatment of EDS associated with narcolepsy or obstructive sleep apnea, or OSA. Our ability to realize the anticipated benefits from our investment in Sunosi is subject to a number of risks and uncertainties, including the potential impacts of the continuing COVID-19 pandemic on the successful commercialization in the U.S. and the rolling launch in Europe, which are at an early stage; market acceptance of Sunosi; our ability, in a competitive retail pharmacy market, to differentiate Sunosi from other products that are prescribed to treat excessive sleepiness in patients with OSA or EDS in patients with narcolepsy; adequate coverage and reimbursement by government programs and other third party payors, including the impact of future coverage decisions by payors; restrictions on permitted promotional activities based on any additional limitations on the labeling for the product that may be required by the U.S. Food and Drug Administration, or FDA, or the European Commission, or the EC, or other regulatory authority in the future; and our ability to satisfy FDA's post-marketing requirements. If we are unable to successfully commercialize Sunosi in the U.S. and EU, or if sales of Sunosi do not reach the levels we expect, our anticipated revenue from Sunosi will be negatively affected, which could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

The introduction of new products in the U.S. market that compete with, or otherwise disrupt the market for, our oxybate products and product candidates would adversely affect sales of our oxybate products and product candidates.

While Xyrem and Xywav are currently the only products approved by FDA and marketed in the U.S. for the treatment of both cataplexy and EDS in both adult and pediatric patients with narcolepsy, new treatment options for EDS in narcolepsy have launched, and in the future, other products may be launched that are competitive with or disrupt the market for our oxybate products.

For example, in the future, we expect Xyrem and Xywav to face competition from authorized generic and generic versions of sodium oxybate. Nine companies have sent us notices that they had filed abbreviated new drug applications, or ANDAs, seeking approval to market a generic version of Xyrem, and we have filed and settled patent lawsuits with all nine companies. To date, FDA has approved or tentatively approved four of these ANDAs, and we believe that it is likely that FDA will approve or tentatively approve some or all of the others. In our patent litigation settlement with the first filer, West-Ward Pharmaceuticals Corp. (a wholly owned subsidiary of Hikma Pharmaceuticals PLC and now known as Hikma in the U.S.), or Hikma, we granted Hikma the right to sell an authorized generic product, or AG Product, with royalties back to us, in the U.S. beginning on January 1, 2023, or earlier under certain circumstances. Hikma has a right to elect to continue to sell the Hikma AG Product for a total of up to five years. We also granted Hikma a license to launch its own generic sodium oxybate product as early as six months after it has the right to sell the Hikma AG Product, but if it elects to launch its own generic product, Hikma will no longer have the right to sell the Hikma AG Product. In our settlements with Amneal Pharmaceuticals LLC, or Amneal, Lupin Inc., or Lupin, and Par Pharmaceutical, Inc., or Par, we granted each party the right to sell a limited volume of an AG Product in the U.S. beginning on July 1, 2023, or earlier under certain circumstances, and ending on December 31, 2025, with royalties back to us. AG Products will be distributed through the same risk evaluation and mitigation strategy, or REMS, as Xyrem and Xywav. We also granted each of Amneal, Lupin and Par a license to launch its own generic sodium oxybate product under its ANDA on or after December 31, 2025, or earlier under certain circumstances, including the circumstance where Hikma elects to launch its own generic product. If Amneal, Lupin or Par elects to launch its own generic product under such circumstance, it will no longer have the right to sell an AG Product. In our settlements with each of the other five ANDA filers, we granted each a license to launch its own generic sodium oxybate product under its ANDA on or after December 31, 2025, or earlier under certain circumstances, including circumstances where Hikma launches its own generic sodium oxybate

product. The actual timing of the launch of an AG Product or generic sodium oxybate product is uncertain because the launch dates of the AG Products and generic sodium oxybate products under our settlement agreements are subject to acceleration under certain circumstances.

Any ANDA holder launching an AG Product or another generic sodium oxybate product will independently establish the price of the AG Product and/or its own generic sodium oxybate product. Generic competition often results in decreases in the prices at which branded products can be sold. After any introduction of a generic product, whether or not it is an AG Product, a significant percentage of the prescriptions written for Xyrem will likely be filled with the generic product. Certain U.S. state laws allow for, and in some instances in the absence of specific instructions from the prescribing physician mandate, the dispensing of generic products rather than branded products when a generic version is available. This would result in reduction in sales of, and revenue from, Xyrem, although we would continue to receive royalties and other revenue based on sales of an AG Product in accordance with the terms of our settlement agreements.

It is possible that additional companies may file ANDAs seeking to market a generic version of Xyrem which could lead to additional patent litigation or challenges with respect to Xyrem. Such patent litigation or challenges could potentially trigger acceleration of the launch dates in our settlement agreements if, for example, our patents covering Xyrem were invalidated. Alternatively, the launch dates in our settlement agreements could be accelerated if a new ANDA filer were to obtain FDA approval for its sodium oxybate product, and launch its generic product through a generic sodium oxybate REMS before the entry dates specified in our settlement agreements. It is also possible that we could enter into a settlement agreement with a future ANDA filer that would permit such filer to enter the market on or prior to the launch date(s) in our settlement agreements. If a company launches a generic or authorized generic sodium oxybate product in any of these scenarios, except in limited circumstances related to an "at risk" launch, the launch date for Hikma's AG Product would be accelerated to a date on or prior to the date of such entry, which could lead to acceleration of the other settling ANDA filers' AG Product and generic sodium oxybate product launch dates as described above.

Another circumstance that could trigger acceleration of Hikma's launch date for an AG Product, which would also accelerate Amneal, Lupin and Par's launch dates for their AG Products and ultimately could lead to acceleration of the other settling ANDA filers' launch dates for their generic sodium oxybate products, is a substantial reduction in Xyrem net sales. Such a reduction could occur under various circumstances, including from our sales of Xywav or if a third party introduces a product to treat EDS or cataplexy in narcolepsy that leads to a substantial decline in Xyrem net sales. Accordingly, our strategy to drive revenue growth in our key franchises through, among other things, rapid adoption and broad access of Xywav in the U.S. could lead to the acceleration of such launch dates. Other companies may develop a sodium oxybate product for treatment of narcolepsy, using an alternative formulation or a different delivery technology, and seek approval in the U.S. using a new drug application, or NDA, approval pathway under Section 505(b)(2) and referencing the safety and efficacy data for Xyrem. In December 2020, Avadel Pharmaceuticals plc, or Avadel, filed a NDA for an extended-release formulation of sodium oxybate which uses its proprietary technology for the treatment of EDS and cataplexy in patients with narcolepsy. Xyrem may also face increased competition from new branded entrants to treat EDS in narcolepsy such as pitolisant. Other companies have announced that they have product candidates in various phases of development to treat the symptoms of narcolepsy, such as Axsome Therapeutics, Inc.'s reboxetine, and various companies are performing research and development on orexin agonists for the treatment of sleep disorders.

We expect that Xywav will face competition similar to that described above for Xyrem, including from generic or authorized generic sodium oxybate products or new branded entrants in narcolepsy. For example, Avadel has announced that it has obtained an orphan drug designation from FDA for its extended-release sodium oxybate formulation. To obtain approval with orphan drug exclusivity, Avadel will have to show clinical superiority to Xyrem and Xywav. We cannot predict the timing or approvability of Avadel's sodium oxybate product candidate or how FDA will evaluate any clinical superiority arguments that either we or Avadel may make, but in any event, we expect to face competition from Avadel, if its product candidate is approved.

Moreover, non-oxybate products intended for the treatment of EDS or cataplexy in narcolepsy, including new market entrants, even if not directly competitive with Xyrem or Xywav, could have the effect of changing treatment regimens and payor or formulary coverage of Xyrem or Xywav in favor of other products, and indirectly materially and adversely affect sales of Xyrem and Xywav. Examples of such new market entrants include our product, Sunosi, and pitolisant, a drug that was approved by FDA in 2019 for the treatment of EDS in adult patients with narcolepsy and recently approved by FDA in October 2020 pursuant to a complete response resubmission for an adult cataplexy indication in the U.S. Pitolisant has also been approved and marketed in Europe to treat adult patients with narcolepsy with or without cataplexy, and a marketing authorization application is pending with the European Medicines Agency, or EMA, for approval of pitolisant in the treatment of EDS in OSA. In addition, we are also aware that prescribers often prescribe branded or generic medications for cataplexy, before or instead of prescribing oxybate therapy in Xyrem and Xywav, and that payors often require patients to try such medications before they will cover Xyrem or Xywav, even if they are not approved for this use. Examples of such products are described in "Business—Competition" in Part I, Item 1 of this Annual Report on Form 10-K.

We expect that the approval and launch of an AG Product or other generic version of Xyrem could have a material adverse effect on our sales of and revenues from Xyrem and Xywav and on our business, financial condition, results of operations and growth prospects. We also expect that sales of Xywav will, and the approval and launch of any other sodium oxybate (including Avadel's extended-release sodium oxybate formulation) or alternative product that treats narcolepsy could, have a material adverse effect on our sales of and revenues from Xyrem, which could have the additional impact of potentially triggering acceleration of market entry of AG Products or other generic sodium oxybate products under our patent litigation settlement agreements.

The distribution and sale of our oxybate products are subject to significant regulatory restrictions, including the requirements of a REMS, and these regulatory requirements subject us to risks and uncertainties, any of which could negatively impact sales of Xyrem and Xywav.

The active pharmaceutical ingredient, or API, of Xyrem and Xywav, is a form of gamma-hydroxybutyric acid, or GHB, a central nervous system depressant known to be associated with facilitated sexual assault as well as with respiratory depression and other serious side effects. As a result, FDA requires that we maintain a REMS with elements to assure safe use, or ETASU, for Xyrem and Xywav to help ensure that the benefits of the drug in the treatment of cataplexy and EDS in narcolepsy outweigh the serious risks of the drug. The REMS imposes extensive controls and restrictions on the sales and marketing of Xyrem and Xywav that we are responsible for implementing. Any failure to demonstrate our substantial compliance with our REMS obligations, including as a result of business or other interruptions resulting from the evolving effects of the COVID-19 pandemic, or a determination by FDA that the REMS is not meeting its goals, could result in enforcement action by FDA, lead to changes in our REMS obligations, negatively affect sales of Xyrem or Xywav, result in additional costs and expenses for us and/or require us to invest a significant amount of resources, any of which could materially and adversely affect our business, financial condition, results of operations and growth prospects.

FDA has stated that it will evaluate the Xywav and Xyrem REMS on an ongoing basis and will require modifications as may be appropriate. We cannot predict whether FDA will request, seek to require or ultimately require modifications to, or impose additional requirements on, the Xywav and Xyrem REMS, including in connection with the submission of new oxybate products or indications, the introduction of authorized generics, or to accommodate generics, or whether FDA will approve modifications to the Xywav and Xyrem REMS that we consider warranted. Any modifications approved, required or rejected by FDA could change the safety profile of Xywav or Xyrem, and have a significant negative impact in terms of product liability, public acceptance of Xywav or Xyrem as a treatment for cataplexy and EDS in narcolepsy, and prescribers' willingness to prescribe, and patients' willingness to take, Xywav or Xyrem, any of which could have a material adverse effect on our oxybate business. Modifications approved, required or rejected by FDA could also make it more difficult or expensive for us to distribute Xywav or Xyrem, make distribution easier for oxybate competitors, disrupt continuity of care for Xywav or Xyrem patients and/or negatively affect sales of Xywav or Xyrem.

We depend on outside vendors, including Express Scripts Specialty Distribution Services, Inc., the central certified pharmacy, to distribute Xywav and Xyrem in the U.S., provide patient support services and implement the requirements of the Xywav and Xyrem REMS. If the central pharmacy fails to meet the requirements of the Xywav and Xyrem REMS applicable to the central pharmacy or otherwise does not fulfill its contractual obligations to us, moves to terminate our agreement, refuses or fails to adequately serve patients, or fails to promptly and adequately address operational challenges or challenges in implementing REMS modifications, whether due to business or other interruptions resulting from the evolving effects of the COVID-19 pandemic or otherwise, the fulfillment of Xywav or Xyrem prescriptions and our sales would be adversely affected. If we change to a new central pharmacy, new contracts might be required with government payors and other insurers who pay for Xywav or Xyrem, and the terms of any new contracts could be less favorable to us than current agreements. In addition, any new central pharmacy would need to be registered with the U.S. Drug Enforcement Administration, or DEA, and certified and would also need to implement the particular processes, procedures and activities necessary to distribute under the Xywav and Xyrem REMS. Transitioning to a new pharmacy could result in product shortages, which would negatively affect sales of Xywav and Xyrem, result in additional costs and expenses for us and/or take a significant amount of time, any of which could materially and adversely affect our business, financial condition, results of operations and growth prospects.

In its approval of Hikma's ANDA, FDA waived the requirement of a single shared REMS between the brand drug and generic versions, approving Hikma's ANDA with a generic sodium oxybate REMS separate from the Xywav and Xyrem REMS, except for the requirement that the generic sodium oxybate REMS program pharmacies contact the Xywav and Xyrem REMS by phone to verify and report certain information. The generic sodium oxybate REMS was approved with the condition that it be open to all future sponsors of ANDAs or NDAs for sodium oxybate products. A sodium oxybate distribution system that is less restrictive than the Xywav and Xyrem REMS, such as the generic sodium oxybate REMS, which provides that generic sodium oxybate products and potentially new sodium oxybate products approved under a Section 505(b)(2) NDA approval pathway could be distributed through multiple pharmacies, could increase the risks associated with oxybate distribution. Because patients, consumers and others may not differentiate generic sodium oxybate from Xyrem or differentiate between the different REMS programs, any negative outcomes, including risks to the public, caused by or otherwise related to a

separate sodium oxybate REMS, could have a significant negative impact in terms of product liability, our reputation and good will, public acceptance of Xywav or Xyrem as a treatment for cataplexy and EDS in narcolepsy, and prescribers' willingness to prescribe, and patients' willingness to take, Xywav or Xyrem, any of which could have a material adverse effect on our oxybate business.

We may face pressure to further modify the Xyrem and Xywav REMS or to license or share intellectual property pertinent to that REMS, including proprietary data required for the safe distribution of sodium oxybate, in connection with FDA's approval of the generic sodium oxybate REMS or another oxybate REMS that may be submitted or approved in the future. Our settlement agreements with ANDA filers do not directly impact FDA's waiver of the single shared system REMS requirement, any other ANDA or NDA filer's ability to develop and implement the generic sodium oxybate REMS for its sodium oxybate product, or our ability to take any action with respect to the safety of the generic sodium oxybate REMS. We cannot predict the outcome or impact on our business of any future action that we may take with respect to FDA's waiver of the single shared system REMS requirement, its approval and tentative approval of generic versions of sodium oxybate or the consequences of distribution of sodium oxybate through the generic sodium oxybate REMS approved by FDA or another separate REMS.

REMS programs have increasingly drawn public scrutiny from the U.S. Congress, the Federal Trade Commission, or FTC, and FDA, with allegations that such programs are used as a means of improperly blocking or delaying competition. In December 2019, as part of the Further Consolidated Appropriations Act of 2020, the U.S. Congress passed legislation known as the Creating and Restoring Equal Access To Equivalent Samples Act, or CREATES. CREATES is intended to prevent companies from using REMS and other restricted distribution programs as a means to deny potential competitors access to product samples that are reasonably necessary to conduct testing in support of an application that references a listed drug or biologic, and provides such potential competitors a potential private right of action if the innovator fails to timely provide samples upon request. CREATES also grants FDA additional authority regarding approval of generic products with REMS.

It is possible that the FTC, FDA or other governmental authorities could claim that, or launch an investigation into whether, we are using our REMS programs in an anticompetitive manner or have engaged in other anticompetitive practices. The Federal Food, Drug and Cosmetic Act further states that a REMS ETASU shall not be used by an NDA holder to block or delay generic drugs or drugs covered by an application under Section 505(b)(2) from entering the market. In its 2015 letter approving the Xyrem REMS, FDA expressed concern that we were aware that the Xyrem REMS is blocking competition. Between June and September 2020, we were served with a number of class action complaints that included allegations that we had used the Xyrem REMS to delay approval of generic sodium oxybate. In December 2020, these cases were centralized and transferred to the United States District Court for the Northern District of California, where the multidistrict litigation will proceed for the purpose of discovery and pre-trial proceedings. For additional information on these class action complaints, see Note 13, Commitments and Contingencies-Legal Proceedings of the Notes to Consolidated Financial Statements included in this Annual Report on Form 10-K. It is possible that additional lawsuits will be filed against us making similar or related allegations. We cannot predict the outcome of these or potential additional lawsuits; however, if the plaintiffs were to be successful in their claims, they may be entitled to injunctive relief or we may be required to pay significant monetary damages, which could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

Pharmaceutical companies, including their agents and employees, are required to monitor adverse events occurring during the use of their products and report them to FDA. The patient counseling and monitoring requirements of the Xywav and Xyrem REMS provide more extensive information about adverse events experienced by patients taking Xywav and Xyrem, including deaths, than is generally available for other products that are not subject to similar REMS requirements. As required by FDA and other regulatory agencies, the adverse event information that we collect for Xywav and Xyrem is regularly reported to FDA and could result in FDA requiring changes to Xywav and/or Xyrem labeling, including additional warnings or additional boxed warnings, or requiring us to take other actions that could have an adverse effect on patient and prescriber acceptance of Xywav and Xyrem. As required by FDA, Xywav's and Xyrem's current labeling includes a boxed warning regarding the risk of central nervous system depression and misuse and abuse.

Any failure to demonstrate our substantial compliance with the REMS or any other applicable regulatory requirements to the satisfaction of FDA or another regulatory authority could result in such regulatory authorities taking actions in the future which could have a material adverse effect on oxybate product sales and therefore on our business, financial condition, results of operations and growth prospects.

While we expect our oxybate products, Xyrem and our newly approved Xywav, to remain the largest part of our business, our success also depends on our ability to effectively commercialize products in our oncology therapeutic area.

In addition to Xyrem, Xywav and our other neuroscience products and product candidates, we are commercializing a portfolio of products, including our other lead marketed products, Defitelio, Erwinaze, Vyxeos and Zepzelca. An inability to effectively commercialize Defitelio, Vyxeos and Zepzelca and to maximize their potential where possible through successful research and development activities, whether due to the evolving effects of the COVID-19 pandemic or otherwise, and an

inability to replace the future product sales we will lose from Erwinaze, would have a material adverse effect on our business, financial condition, results of operations and growth prospects.

Defitelio

Our ability to maintain and grow sales and to realize the anticipated benefits from our investment in Defitelio® (defibrotide sodium) is subject to a number of risks and uncertainties, including continued acceptance by hospital pharmacy and therapeutics committees in the U.S., the EU and other countries; the continued availability of favorable pricing and adequate coverage and reimbursement; the limited experience of, and need to educate, physicians in recognizing, diagnosing and treating hepatic veno-occlusive disease, or VOD, particularly in adults; the possibility that physicians recognizing VOD symptoms may not initiate or may delay initiation of treatment while waiting for those symptoms to improve, or may terminate treatment before the end of the recommended dosing schedule; and the limited size of the population of VOD patients who are indicated for treatment with Defitelio (particularly if changes in hematopoietic stem cell transplantation treatment protocols reduce the incidence of VOD diagnosis and demand for Defitelio).

We announced in April 2020 that we stopped enrollment in our Phase 3 trial evaluating defibrotide in the prevention of VOD due to a determination that the study is highly unlikely to reach one of its primary endpoints. Although we do not expect this outcome to impact clinicians' use of Defitelio in the treatment of VOD, it may result in delays in the initiation of treatment for some patients as clinicians wait for definitive signs and symptoms of VOD. Although we saw a resurgence in demand for Defitelio in the U.S. and outside the U.S. beginning in the end of the second quarter of 2020, due to the evolving effects of the COVID-19 pandemic, the reprioritization of healthcare resources and related delays, postponements or suspensions of certain medical procedures such as stem cell transplants, we continue to expect a negative impact on demand for and utilization of Defitelio. If sales of Defitelio do not reach the levels we expect, our anticipated revenue from the product would be negatively affected and our business, financial condition, results of operations and growth prospects would be materially adversely affected. In addition, because VOD is an ultra-rare disease, we have experienced inter-quarter variability in our Defitelio sales, which makes Defitelio sales difficult to predict from period to period. As a result, Defitelio sales results or trends in any period may not necessarily be indicative of future performance.

Erwinaze

Erwinaze® (asparaginase *Erwinia chrysanthemi*), which is approved to treat a limited population of patients with acute lymphoblastic leukemia, or ALL, who have developed hypersensitivity to *E. coli*-derived asparaginase, is licensed from, and manufactured by, a single source, Porton Biopharma Limited, or PBL, a company that is wholly owned by the UK Department of Health and Social Care. Our license and supply agreement with PBL, which included an exclusive right to market, sell or distribute Erwinaze, an exclusive license to Erwinaze trademarks, and a non-exclusive license to PBL's manufacturing know-how, expired on December 31, 2020. In April 2020, PBL announced that it had entered into an agreement with a new partner to commercialize and distribute Erwinaze. Under our agreement with PBL, we have the right to sell certain Erwinaze inventory for a post-termination sales period of 12 months and retain ownership of certain data, know-how and other property interests, including the biologics license application, or BLA, for Erwinaze in the U.S. and marketing authorizations for Erwinase in several other countries. Subject to successful receipt, release and FDA approval for the batches from PBL, we expect to distribute available Erwinaze supply during the first half of 2021. If we are unable to replace the future product sales we will lose from Erwinaze with our existing or future products, our business, financial condition, results of operations and growth prospects would be materially adversely affected.

In the past, a significant challenge to maintaining sales of Erwinaze and a barrier to increasing sales was PBL's inability to consistently supply product that meets specifications in quantities that are adequate to meet market demand. Other challenges facing Erwinaze include the limited population of patients with ALL, and the incidence of hypersensitivity reactions to *E. coli*-derived asparaginase within that population; the development and/or approval of new asparaginase treatments or treatment protocols for ALL that may not include asparaginase-containing regimens and prescribers' use of alternate methods to address hypersensitivity reactions; difficulties with obtaining and maintaining favorable pricing and reimbursement arrangements; and potential competition from future biosimilar products.

Vyxeos

Our ability to realize the anticipated benefits from our investment in Vyxeos® (daunorubicin and cytarabine) liposome for injection by successfully and sustainably growing sales is subject to a number of risks and uncertainties, including our ability to differentiate Vyxeos from other liposomal chemotherapies and generically available chemotherapy combinations with which physicians and treatment centers are more familiar; acceptance by hospital pharmacy and therapeutics committees in the U.S., the EU and other countries; the increasing complexity of the acute myeloid leukemia, or AML, landscape requiring changes in patient identification and treatment selection, including diagnostic tests and monitoring that clinicians may find challenging to incorporate; the use of new and novel compounds in AML that are either used off-label or are only approved for use in combination with other agents and that have not been tested in combination with Vyxeos; the increasing use of venetoclax, which received full FDA approval in October 2020 for AML treatment; the limited size of the population of high-risk AML

patients who may potentially be indicated for treatment with Vyxeos, particularly as a result of the shift of healthcare resources toward less intensive outpatient AML treatments in the U.S. in light of the COVID-19 pandemic which is directly negatively impacting, or delaying, the use of Vyxeos, as well as the suspension of in-person interactions with healthcare professionals due to the COVID-19 pandemic; the availability of adequate coverage, pricing and reimbursement approvals, competition from new and existing products and potential competition from products in development; and delays or problems in the supply or manufacture of Vyxeos. Although we saw some recovery in demand for Vyxeos beginning in the end of the second quarter of 2020, due to the ongoing impacts of the COVID-19 pandemic, we continue to expect a negative impact on demand for and utilization of Vyxeos compared to historical periods. If sales of Vyxeos do not reach the levels we expect, our anticipated revenue from the product would be negatively affected, which would have a material adverse effect on our business, financial condition, results of operations and growth prospects.

Zepzelca

Our ability to realize the anticipated benefits from our investment in Zepzelca® (lurbinectedin) is subject to a number of risks and uncertainties, including our ability to successfully commercialize Zepzelca in the U.S.; adequate supply of Zepzelca to meet demand; availability of favorable pricing and adequate coverage and reimbursement; the limited experience of, and need to educate, physicians in the use of Zepzelca for the treatment of metastatic small cell lung cancer, or SCLC; the potential for negative trial data read-outs in ongoing or future Zepzelca clinical trials; our and Pharma Mar, S.A., or PharmaMar's ability to maintain accelerated approval or obtain FDA's agreement as to a confirmatory study of Zepzelca; and the impact of the evolving effects of the COVID-19 pandemic on our ability to educate health care providers about Zepzelca in the treatment of relapsed, metastatic SCLC in the U.S.

We face substantial competition from other companies, including companies with larger sales organizations and more experience working with large and diverse product portfolios.

Our products compete, and our product candidates may in the future compete, with currently existing therapies, including generic drugs, product candidates currently under development by us and others and/or future product candidates, including new chemical entities that may be safer or more effective or more convenient than our products. Any products that we develop may be commercialized in competitive markets, and our competitors, which include large global pharmaceutical companies and small research-based companies and institutions, may succeed in developing products that render our products obsolete or noncompetitive. Many of our competitors, particularly large pharmaceutical and life sciences companies, have substantially greater financial, operational and human resources than we do. Smaller or earlier stage companies may also prove to be significant competitors, particularly through focused development programs and collaborative arrangements with large, established companies. In addition, many of our competitors deploy more personnel to market and sell their products than we do, and we compete with other companies to recruit, hire, train and retain pharmaceutical sales and marketing personnel. If our sales force and sales support organization are not appropriately resourced and sized to adequately promote our products, the commercial potential of our current and any future products may be diminished. In any event, the commercial potential of our current products and any future products may be reduced or eliminated if our competitors develop or acquire and commercialize generic or branded products that are safer or more effective, are more convenient or are less expensive than our products. For a description of the competition that our lead marketed products and most advanced product candidates face or may face, see the discussion in "Business—Competition" in Part I, Item 1 of this Annual Report on Form 10-K and the risk factor under the heading "*The introduction of new products in the U.S. market that compete with, or otherwise disrupt the market for, our oxybate products and product candidates would adversely affect sales of our oxybate products and product candidates"* in this Part I, Item 1A.

Adequate coverage and reimbursement from third party payors may not be available for our products and we may be unable to successfully contract for coverage from pharmacy benefit managers and group purchasing organizations, which could diminish our sales or affect our ability to sell our products profitably; conversely, to secure coverage from these organizations, we may be required to pay rebates or other discounts or other restrictions to reimbursement that could diminish our sales.

In both U.S. and non-U.S. markets, our ability to successfully commercialize and achieve market acceptance of our products depends in significant part on adequate financial coverage and reimbursement from third party payors, including governmental payors (such as the Medicare and Medicaid programs in the U.S.), managed care organizations and private health insurers. Without third party payor reimbursement, patients may not be able to obtain or afford prescribed medications. In addition, reimbursement guidelines and incentives provided to prescribing physicians by third party payors may have a significant impact on the prescribing physicians' willingness and ability to prescribe our products. The demand for, and the profitability of, our products could be materially harmed if the Medicaid program, Medicare program, other healthcare programs in the U.S. or elsewhere, or third party commercial payors in the U.S. or elsewhere deny reimbursement for our products, limit the indications for which our products will be reimbursed, or provide reimbursement only on unfavorable terms. In particular, we cannot predict to what extent the evolving effects of the COVID-19 pandemic may disrupt global healthcare systems and access to our products or result in a widespread loss of individual health insurance coverage due to unemployment,

a shift from commercial payor coverage to government payor coverage, or an increase in demand for patient assistance and/or free drug programs, any of which could adversely affect net revenue.

As part of the overall trend toward cost containment, third party payors often require prior authorization for, and require reauthorization for continuation of, prescription products or impose step edits, which require prior use of another medication, usually a generic or preferred brand, prior to approving coverage for a new or more expensive product. Such restrictive conditions for reimbursement and an increase in reimbursement-related activities can extend the time required to fill prescriptions and may discourage patients from seeking treatment. We cannot predict actions that third party payors may take, or whether they will limit the access and level of reimbursement for our products or refuse to provide any approvals or coverage. From time to time, third party payors have refused to provide reimbursement for our products, and others may do so in the future.

Third party payors increasingly examine the cost-effectiveness of pharmaceutical products, in addition to their safety and efficacy, when making coverage and reimbursement decisions. We may need to conduct expensive pharmacoeconomic and/or clinical studies in order to demonstrate the cost-effectiveness of our products. If our competitors offer their products at prices that provide purportedly lower treatment costs than our products, or otherwise suggest that their products are safer, more effective or more cost-effective than our products, this may result in a greater level of access for their products relative to our products, which would reduce our sales and harm our results of operations. In some cases, for example, third party payors try to encourage the use of less expensive generic products through their prescription benefit coverage and reimbursement and co-pay policies. Because some of our products compete in a market with both branded and generic products, obtaining and maintaining access and reimbursement coverage for our products may be more challenging than for products that are new chemical entities for which no therapeutic alternatives exist.

Third party pharmacy benefit managers, or PBMs, group purchasing organizations, or GPOs, and payors can limit coverage to specific products on an approved list, or formulary, which might not include all of the approved products for a particular indication, and to exclude drugs from their formularies in favor of competitor drugs or alternative treatments, or place drugs on formulary tiers with higher patient co-pay obligations, and/or to mandate stricter utilization criteria. Formulary exclusion effectively encourages patients and providers to seek alternative treatments, make a complex and time-intensive request for medical exemptions, or pay 100% of the cost of a drug. In addition, in many instances, certain PBMs, GPOs and third party payors may exert negotiating leverage by requiring incremental rebates, discounts or other concessions from manufacturers in order to maintain formulary positions, which could continue to result in higher gross to net deductions for affected products. In this regard, we have entered into agreements with PBMs and payor accounts to provide rebates to those entities related to formulary coverage for Xyrem, Xywav and Sunosi, but we cannot guarantee that we will be able to agree to coverage terms with other PBMs and other third party payors. We are seeking to secure payor coverage for Xywav that is similar to Xyrem and have implemented patient access programs for Xywav to support patients in obtaining access to Xywav during the launch period. However, payors could decide to exclude Xywav from formulary coverage lists, impose step edits that require patients to try alternative, including generic, treatments before authorizing payment for Xywav, limit the types of diagnoses for which coverage will be provided or impose a moratorium on coverage for products while the payor makes a coverage decision. An inability to obtain or maintain adequate formulary positions could increase patient cost-sharing for Xywav and cause some patients to determine not to use Xywav. Any delays or unforeseen difficulties in obtaining access or reimbursement approvals could limit patient access, depress therapy adherence rates, and adversely impact our ability to successfully commercialize Xywav. If we are unsuccessful in obtaining broad coverage for Xywav, our anticipated revenue from and growth prospects for Xywav could be negatively affected.

In many countries outside the U.S., procedures to obtain price approvals, coverage and reimbursement can take considerable time after the receipt of marketing authorization. Many European countries periodically review their reimbursement of medicinal products, which could have an adverse impact on reimbursement status. In addition, we expect that legislators, policymakers and healthcare insurance funds in the EU member states will continue to propose and implement cost-containing measures, such as lower maximum prices, lower or lack of reimbursement coverage and incentives to use cheaper, usually generic, products as an alternative to branded products, and/or branded products available through parallel import to keep healthcare costs down. Moreover, in order to obtain reimbursement for our products in some European countries, including some EU member states, we may be required to compile additional data comparing the cost-effectiveness of our products to other available therapies. Health Technology Assessment, or HTA, of medicinal products is becoming an increasingly common part of the pricing and reimbursement procedures in some EU member states, including those representing the larger markets. The HTA process, which is currently governed by the laws in these countries, is the procedure to assess therapeutic, economic and societal impact of a given medicinal product in the national healthcare systems of the individual country. The outcome of an HTA will often influence the pricing and reimbursement status granted to these medicinal products by the competent authorities of individual EU member states. The extent to which pricing and reimbursement decisions are influenced by the HTA of the specific medicinal product currently varies between EU member states, although a legislative proposal adopted by the EC in January 2018 concerning EU regulation governing HTA procedures may eventually lead to harmonization. If we are unable to maintain favorable pricing and reimbursement status in EU member

states that represent significant markets, our anticipated revenue from and growth prospects for our products in the EU could be negatively affected. For example, the EC granted marketing authorization for Vyxeos in August 2018 and for Sunosi in January 2020, and, as part of our rolling launches of Vyxeos and Sunosi in Europe, we are making pricing and reimbursement submissions in European countries. Due to the evolving effects of the COVID-19 pandemic, we currently anticipate delays by certain European regulatory authorities in their pricing and reimbursement reviews. If we experience setbacks or unforeseen difficulties in obtaining favorable pricing and reimbursement decisions, including as a result of regulatory review delays due to the COVID-19 pandemic, planned launches in the affected EU member states would be delayed, which could negatively impact anticipated revenue from and growth prospects for Vyxeos and/or Sunosi.

The pricing of pharmaceutical products has come under increasing scrutiny as part of a global trend toward healthcare cost containment and resulting changes in healthcare law and policy may impact our business in ways that we cannot currently predict, which could have a material adverse effect on our business and financial condition.

Political, economic and regulatory influences are subjecting the healthcare industry in the U.S. to fundamental changes, particularly given the current atmosphere of mounting criticism of prescription drug costs in the U.S. We expect there will continue to be legislative and regulatory proposals to change the healthcare system in ways that could impact our ability to sell our products profitably, as governmental oversight and scrutiny of biopharmaceutical companies is increasing. For example, we anticipate that the U.S. Congress, state legislatures, and regulators may adopt or accelerate adoption of new healthcare policies and reforms intended to curb healthcare costs, such as federal and state controls on reimbursement for drugs (including under Medicare, Medicaid and commercial health plans), new or increased requirements to pay prescription drug rebates and penalties to government health care programs, and additional pharmaceutical cost transparency policies that aim to require drug companies to justify their prices through required disclosures. There is also proposed legislation pending that would implement a Most Favored Nation, or MFN, pricing model. If a MFN pricing model were applied to any of our products, our revenues from U.S. sales of such products could decrease.

Legislative and regulatory proposals that have recently been considered include legislative proposals to limit the terms of patent litigation settlements with generic sponsors, and proposals to define certain conduct around patenting and new product development as unfair competition. All such considerations may adversely affect our business and industry in ways that we cannot accurately predict. FDA recently issued a final regulation, as well as guidance for industry, permitting the importation of drugs into the U.S. from other countries under certain circumstances, although it is currently unclear whether stakeholders will avail themselves of these pathways. Any of our products becoming subject to importation could negatively affect our business in ways that we cannot accurately predict.

There is also ongoing activity related to health care coverage. The Affordable Care Act substantially changed the way healthcare is financed by both governmental and private insurers. These changes impacted previously existing government healthcare programs and have resulted in the development of new programs, including Medicare payment-for-performance initiatives. The Affordable Care Act is currently subject to a broad legal challenge in *California vs. Azar* before the Supreme Court. Were the Supreme Court to invalidate the Affordable Care Act, that could have far-reaching consequences of an uncertain nature for our industry. However, the Biden administration and Democratically-controlled Congress are expected to take significant action to mitigate any ruling against the Affordable Care Act. Further, the administration and Congress are expected to take notable steps towards expanding health care coverage beyond the Affordable Care Act, which could have ramifications for the pharmaceutical industry.

If healthcare policies or reforms intended to curb healthcare costs are adopted or if we experience negative publicity with respect to pricing of our products or the pricing of pharmaceutical drugs generally, the prices that we charge for our products, including Xyrem and Xywav, may be affected, our commercial opportunity may be limited and/or our revenues from sales of our products may be negatively impacted. We have periodically increased the price of Xyrem, most recently in January 2021, and there is no guarantee that we will make similar price adjustments to Xyrem and Xywav in the future or that price adjustments we have taken or may take in the future will not negatively affect Xyrem or Xywav sales volumes and revenues. We also have made and may in the future make price adjustments on our other products. There is no guarantee that such price adjustments will not negatively affect our reputation and our ability to secure and maintain reimbursement coverage for our products, which could limit the prices that we charge for our products, including Xyrem and Xywav, limit the commercial opportunities for our products and/or negatively impact revenues from sales of our products.

If we become the subject of any future government investigation or U.S. Congressional oversight with respect to drug pricing or other business practices, we could incur significant expense and could be distracted from operation of our business and execution of our strategy. Any such investigation or hearing could also result in reduced market acceptance and demand for our products, could harm our reputation and our ability to market our products in the future, and could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

We expect that legislators, policymakers and healthcare insurance funds in Europe will continue to propose and implement cost-containing measures to keep healthcare costs down. These measures could include limitations on the prices we

will be able to charge for our products or the level of reimbursement available for these products from governmental authorities or third party payors. Further, an increasing number of European and other foreign countries use prices for medicinal products established in other countries as "reference prices" to help determine the price of the product in their own territory. Consequently, a downward trend in prices of medicinal products in some countries could contribute to similar downward trends elsewhere.

In addition to access, coverage and reimbursement, the commercial success of our products depends upon their market acceptance by physicians, patients, third party payors and the medical community.

If physicians do not prescribe our products, we cannot generate the revenues we anticipate from product sales. Market acceptance of each of our products by physicians, patients, third party payors and the medical community depends on:

- the clinical indications for which a product is approved and any restrictions placed upon the product in connection with its approval, such as a REMS or equivalent obligation imposed in a European or other foreign country, patient registry requirements or labeling restrictions;
- the prevalence of the disease or condition for which the product is approved and its diagnosis;
- the efficacy of the product in regular use;
- the severity of side effects and other risks in relation to the benefits of our products;
- unanticipated serious adverse events;
- acceptance by physicians and patients of each product as a safe and effective treatment;
- availability of sufficient product inventory to meet demand, particularly with respect to Erwinaze;
- physicians' decisions relating to treatment practices based on availability of product, particularly with respect to Erwinaze;
- perceived clinical superiority and/or advantages over alternative treatments;
- relative convenience and ease of administration;
- with respect to Xyrem and Xywav, physician and patient assessment of the burdens associated with obtaining or maintaining the certifications required under the Xyrem and Xywav REMS or equivalent obligation imposed in a European or other foreign country;
- the cost of treatment in relation to alternative treatments, including generic products; and
- the availability of financial or other assistance for patients who are uninsured or underinsured.

Because of our dependence upon market acceptance of our products, any adverse publicity associated with harm to patients or other adverse events resulting from the use or misuse of any of our products or any similar products distributed by other companies, including generic versions of our products, could materially and adversely affect our business, financial condition, results of operations and growth prospects. For example, from time to time, there is negative publicity about illicit GHB and its effects, including with respect to illegal use, overdoses, serious injury and death. Because sodium oxybate, the API in Xyrem, is a derivative of GHB, Xyrem sometimes also receives negative mention in publicity relating to GHB. Xywav includes the same API as Xyrem, but uses a different mixture of salts. Patients, physicians and regulators may therefore view Xyrem or Xywav as the same as or similar to illicit GHB. In addition, there are regulators and some law enforcement agencies that oppose the prescription and use of Xyrem, and potentially other oxybate products generally because of their connection to GHB. The labels for Xyrem and Xywav authorized in the United States include information about adverse events from GHB.

Delays or problems in the supply of our products for sale or for use in clinical trials, loss of our single source suppliers or failure to comply with manufacturing regulations could materially and adversely affect our business, financial condition, results of operations and growth prospects.

The manufacture of pharmaceutical products requires significant expertise and capital investment, including the development of process controls required to consistently produce the API and the finished product in sufficient quantities while meeting detailed product specifications on a repeated basis. We and our suppliers may encounter difficulties in production, including difficulties with procurement of manufacturing materials, production costs and yields, process controls, quality control and quality assurance, including testing of stability, impurities and impurity levels and other product specifications by validated test methods, and compliance with strictly enforced U.S., state and non-U.S. regulations. In addition, we and our suppliers are subject to FDA's current Good Manufacturing Practices, or cGMP, requirements, DEA regulations and equivalent rules and regulations prescribed by non-U.S. regulatory authorities. If we or any of our suppliers encounter manufacturing, quality or compliance difficulties with respect to any of our products, whether due to the evolving effects of the COVID-19 pandemic (including as a result of disruptions of global shipping and the transport of products) or otherwise, we may be unable to obtain or maintain regulatory approval or meet commercial demand for such products, which could adversely affect our business, financial condition, results of operations and growth prospects. In addition, we could be subject to enforcement action by regulatory authorities for our failure to comply with cGMP with respect to the products we manufacture in our facilities as well as for our failure to adequately oversee compliance with cGMP by any of our third party suppliers operating under contract. Moreover, failure to comply with applicable legal and regulatory requirements subjects us and our suppliers to

possible regulatory action, including restrictions on supply or shutdown, which may adversely affect our or a supplier's ability to supply the ingredients or finished products we need.

We have a manufacturing and development facility in Athlone, Ireland where we manufacture Xyrem and Xywav, and a manufacturing plant in Italy where we produce the defibrotide drug substance. We currently do not have our own commercial manufacturing or packaging capability for our other products, product candidates or their APIs. As a result, our ability to develop and supply products in a timely and competitive manner depends primarily on third party suppliers being able to meet our ongoing commercial and clinical trial needs for API, other raw materials, packaging materials and finished products. Our manufacturing facility in Athlone, Ireland currently continues to be operational with essential staff onsite and office-based staff working remotely. In March 2020, we temporarily ceased operations at our Villa Guardia, Italy manufacturing facility, which produces defibrotide, to ensure the safety of our employees and communities in northern Italy. We reopened the facility in the second quarter of 2020 taking into account applicable public health authority and local government guidelines as well as employee safety, and the facility has now resumed operations with essential staff onsite and office-based staff working remotely. However, the effects of the COVID-19 pandemic continue to rapidly evolve and even if our employees more broadly return to work in our global offices, the field and our manufacturing facilities, we may nevertheless have to resume a remote work model, whether as a result of spikes or surges in COVID-19 infection or hospitalization rates or otherwise.

In part due to the limited market size for our products and product candidates, we have a single source of supply for most of our marketed products, product candidates and their APIs. Single sourcing puts us at risk of interruption in supply in the event of manufacturing, quality or compliance difficulties. If one of our suppliers fails or refuses to supply us for any reason, it would take a significant amount of time and expense to implement and execute the necessary technology transfer to, and to qualify, a new supplier. FDA and similar international or national regulatory bodies must approve manufacturers of the active and inactive pharmaceutical ingredients and certain packaging materials used in our products. If there are delays in qualifying new suppliers or facilities or a new supplier is unable to meet FDA's or similar international regulatory body's requirements for approval, there could be a shortage of the affected products for the marketplace or for use in clinical studies, or both, which could negatively impact our anticipated revenues and could potentially cause us to breach contractual obligations with customers or to violate local laws requiring us to deliver the product to those in need.

Vyxeos is manufactured by Baxter Oncology GmbH, or Baxter, which is a sole source supplier from a single site location. Baxter has experienced batch failures due to mechanical, component and other issues in the production of Vyxeos, and batches have been produced that have otherwise not been in compliance with applicable specifications. We are continuing to work with Baxter to address manufacturing complexities related to Vyxeos. Moreover, the proprietary technology that supports the manufacture of Vyxeos is not easily transferable. Consequently, engaging an alternate manufacturer may be difficult, costly and time-consuming. If we fail to obtain a sufficient supply of Vyxeos in accordance with applicable specifications on a timely basis, our sales of and revenues from Vyxeos, our future maintenance and potential growth of the market for this product, our ability to conduct ongoing and future clinical trials of Vyxeos, and our business, financial condition, results of operations and growth prospects could be materially adversely affected. In addition, while the APIs in Vyxeos, daunorubicin and cytarabine, are available from a number of suppliers, certain suppliers have received warning letters from FDA. As a result, we have qualified other suppliers for each API, and we provided the qualification data to FDA. If FDA restricts importation of API from either supplier, and we are unable to qualify API from additional suppliers in a timely manner, or at all, our ability to successfully commercialize Vyxeos and generate sales of this product at the level we expect and to conduct ongoing and future clinical trials of Vyxeos could be materially and adversely affected.

In addition, in order to conduct our ongoing and any future clinical trials of, complete marketing authorization submissions for, and potentially launch our other product candidates, we also need to have sufficient quantities of product manufactured.

Moreover, to obtain approval from FDA or a similar international or national regulatory body of any product candidate, we or our suppliers for that product must obtain approval by the applicable regulatory body to manufacture and supply product, in some cases based on qualification data provided to the applicable body as part of our regulatory submission. Any delay in generating, or failure to generate, data required in connection with submission of the chemistry, manufacturing and controls portions of any regulatory submission could negatively impact our ability to meet our anticipated submission dates, and therefore our anticipated timing for obtaining FDA or similar international or national regulatory body approval, or our ability to obtain regulatory approval at all. In addition, any failure of us or a supplier to obtain approval by the applicable regulatory body to manufacture and supply product or any delay in receiving, or failure to receive, adequate supplies of a product on a timely basis or in accordance with applicable specifications could negatively impact our ability to successfully launch and commercialize products and generate sales of products at the levels we expect.

If the effects of the COVID-19 pandemic become more severe and begin to impact supply of manufacturing materials or essential distribution systems such as general delivery services, or require us or our suppliers to again cease or restrict operations at our respective manufacturing facilities, we could experience disruptions to our supply chain and operations, and associated delays in the manufacturing and supply of our products, which would adversely impact our ability to generate sales

of and revenues from our approved products and our business, financial condition, results of operations and growth prospects would be materially adversely affected.

Risks Related to Growth of Our Product Portfolio and Research and Development

Our future success depends on our ability to successfully develop and obtain and maintain regulatory approvals for our late-stage product candidates and, if approved, to successfully launch and commercialize those product candidates.

The testing, manufacturing and marketing of our products require regulatory approvals, including approval from FDA and similar bodies in Europe and other countries. If FDA, the EC or the competent authorities of the EU member states or other European countries determine that our quality, safety or efficacy data do not warrant marketing approval for a product candidate, we could be required to conduct additional clinical trials as a condition to receiving approval, which could be costly and time-consuming and could delay or preclude the approval of our application. Our inability to obtain and maintain regulatory approval for our product candidates in the U.S. and Europe and to successfully commercialize new products that are approved would prevent us from receiving a return on our investments and could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

Due to the evolving effects of the COVID-19 pandemic, it is possible that we could experience delays in the timing of marketing application review by regulatory authorities and/or our interactions with regulatory authorities due to limited staffing or working hours of governmental employees, governmental "stay-at-home" orders and travel restrictions with respect to physical inspections if required for regulatory approval, or the diversion of regulatory authority efforts and attention to approval of other therapeutics or other activities related to COVID-19, which could delay anticipated approval decisions and otherwise delay or limit our ability to make planned regulatory submissions or obtain new product approvals. It is possible that we could experience delays in regulatory interactions and review of submissions due to COVID-19 impacts described above, such as with respect to our BLA submission of JZP-458 or our supplemental new drug application, or sNDA, submission of JZP-258 for idiopathic hypersomnia.

Even if we receive approval of a product, regulatory authorities may impose significant labeling restrictions or requirements, including limitations on the dosing of the product, requirements around the naming or strength of a product, restrictions on indicated uses for which we may market the product, the imposition of a boxed warning or other warnings and precautions, and/or the requirement for a REMS or equivalent obligation imposed in a European or other foreign country to ensure that the benefits of the drug outweigh the risks. FDA requires a REMS and a boxed warning for Xyrem and Xywav, and similar restrictions could be imposed on other products in the future. Our receipt of approval for narrower indications than sought, restrictions on marketing through a REMS or equivalent obligation imposed in a European or other foreign country, or significant labeling restrictions or requirements in an approved label such as a boxed warning, could have a negative impact on our ability to recoup our research and development costs and to successfully commercialize that product, any of which could materially and adversely affect our business, financial condition, results of operations and growth prospects.

Regulatory authorities may also impose post-marketing obligations as part of their approval, which may lead to additional costs and burdens associated with commercialization of the drug, and may pose a risk to maintaining approval of the drug. We are subject to certain post-marketing requirements and commitments in connection with the approval of certain of our products, including Defitelio, Erwinaze, Vyxeos, Sunosi and Zepzelca. These post-marketing requirements and commitments include satisfactorily conducting multiple post-marketing clinical trials and safety studies. For example, FDA granted accelerated approval to Zepzelca for relapsed SCLC based on data from a Phase 2 trial, which approval is contingent upon verification and description of clinical benefit in a post-marketing clinical trial. However, FDA confirmed that the clinical benefit of Zepzelca based on the results of the ATLANTIS Phase 3 clinical trial evaluating Zepzelca in combination with doxorubicin for relapsed SCLC did not provide sufficient verification and we and PharmaMar will therefore need to conduct one or more additional clinical trials of Zepzelca to confirm its clinical benefit. Our failure to do so could result in the withdrawal of approval of Zepzelca, which could have a material adverse effect on our business, financial condition, results of operations and growth prospects. In any event, if we are unable to comply with our post-marketing obligations imposed as part of the marketing approvals in the U.S., the EU, or other European countries, our approval may be varied, suspended or revoked, product supply may be delayed and our sales of and revenues from our products could be materially adversely affected.

We are pursuing activities related to the development of additional asparaginase products for patients with ALL or other hematological malignancies. Several of our external research and development collaborations are focused on these efforts, including our agreement with Ligand Pharmaceuticals Incorporated, or Ligand. Among the product candidates being developed under our Ligand agreement is JZP-458, a recombinant Erwinia asparaginase product candidate, for the potential treatment of ALL and lymphoblastic lymphoma who have hypersensitivity to E. coli-derived asparaginase. We also have clinical development efforts focused on expanding the potential of Defitelio, Vyxeos, Sunosi and Xywav, as well as clinical development efforts focused on JZP-385 for the treatment of essential tremor. Because combination regimens and the continual generation of new data have become particularly important in AML, if we are unable to initiate multiple combination studies,

safely combine Vyxeos with novel agents, or if efficacy results do not meet clinicians' expectations, our growth prospects could be materially adversely affected. If we are not successful in the clinical development of our product candidates, if we are unable to obtain regulatory approval for our product candidates in a timely manner, or at all, or if sales of an approved product do not reach the levels we expect, our anticipated revenue from our product candidates would be negatively affected, which could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

We may not be able to successfully identify and acquire or in-license additional products or product candidates to grow our business, and, even if we are able to do so, we may otherwise fail to realize the anticipated benefits of these transactions.

In addition to continued investment in our research and development pipeline, we intend to grow our business by acquiring or in-licensing, and developing, including with collaboration partners, additional products and product candidates that we believe are highly differentiated and have significant commercial potential. However, we may be unable to identify or consummate suitable acquisition or in-licensing opportunities, and this inability could impair our ability to grow our business. Other companies, many of which may have substantially greater financial, sales and marketing resources, compete with us for these opportunities. Even if appropriate opportunities are available, we may not be able to successfully identify them, or we may not have the financial resources necessary to pursue them.

Even if we are able to successfully identify and acquire, in-license or develop additional products or product candidates, we may not be able to successfully manage the risks associated with integrating any products or product candidates into our portfolio or the risks arising from anticipated and unanticipated problems in connection with an acquisition or in-licensing. Further, while we seek to mitigate risks and liabilities of potential acquisitions and in-licensing transactions through, among other things, due diligence, there may be risks and liabilities that such due diligence efforts fail to discover, that are not disclosed to us, or that we inadequately assess. Any failure in identifying and managing these risks, liabilities and uncertainties effectively, could have a material adverse effect on our business, results of operations and financial condition. In addition, product and product candidate acquisitions, particularly when the acquisition takes the form of a merger or other business consolidation, have required, and any similar future transactions also will require, significant efforts and expenditures, including with respect to transition and integration activities. We may encounter unexpected difficulties, or incur substantial costs, in connection with potential acquisitions and similar transactions, which include:

- the need to incur substantial debt and/or engage in dilutive issuances of equity securities to pay for acquisitions;
- the potential disruption of our historical core business;
- the strain on, and need to continue to expand, our existing operational, technical, financial and administrative infrastructure;
- the difficulties in integrating acquired products and product candidates into our portfolio;
- the difficulties in assimilating employees and corporate cultures;
- the failure to retain key managers and other personnel;
- the need to write down assets or recognize impairment charges;
- the diversion of our management's attention to integration of operations and corporate and administrative infrastructures; and
- any unanticipated liabilities for activities of or related to the acquired business or its operations, products or product candidates.

Moreover, if the effects of the COVID-19 pandemic become more severe, we could experience an inability to access additional capital, which could in the future negatively affect our capacity for certain corporate development transactions or our ability to make other important, opportunistic investments.

As a result of these or other factors, products or product candidates we acquire, or obtain licenses to, may not produce the revenues, earnings or business synergies that we anticipated, acquired or in-licensed product candidates may not result in regulatory approvals, and acquired or licensed products may not perform as expected. Failure to manage effectively our growth through acquisitions or in-licensing transactions could adversely affect our growth prospects, business, results of operations and financial condition.

Conducting clinical trials is costly and time-consuming, and the outcomes are uncertain. A failure to prove that our product candidates are safe and effective in clinical trials, or to generate data in clinical trials to support expansion of the therapeutic uses for our existing products, could materially and adversely affect our business, financial condition, results of operations and growth prospects.

As a condition to regulatory approval, each product candidate must undergo extensive and expensive preclinical studies and clinical trials to demonstrate to a statistically significant degree that the product candidate is safe and effective. The results at any stage of the development process may lack the desired safety, efficacy or pharmacokinetic characteristics. If FDA determines that the safety or efficacy data to be submitted to FDA in the BLA for JZP-458 or the sNDA for JZP-258 for idiopathic hypersomnia, do not warrant marketing approval, we may be required to conduct additional clinical trials, which could be costly and time-consuming. Even if we believe we have successfully completed testing, FDA or any equivalent non-

U.S. regulatory agency may determine our data is not sufficiently compelling to warrant marketing approval for the indications sought, if at all, and may require us to engage in additional clinical trials or provide further analysis which may be costly and time-consuming. Any adverse events or other data generated during the course of clinical trials of our product candidates and/or clinical trials related to additional indications for our commercialized products could result in action by FDA or a non-U.S. regulatory agency, which may restrict our ability to sell, or adversely affect sales of, currently marketed products, or such events or other data could otherwise have a material adverse effect on a related commercial product, including with respect to its safety profile. Any failure or delay in completing such clinical trials could materially and adversely affect the maintenance and growth of the markets for the related marketed products, which could adversely affect our business, financial condition, results of operations and overall growth prospects.

In addition to issues relating to the results generated in clinical trials, clinical trials can be delayed or halted for a variety of reasons, including:

- direct and indirect impacts of the evolving effects of the COVID-19 pandemic on various aspects and stages of the clinical development process, including the inherent limitations of remote and virtual approaches;
- difficulty identifying, recruiting or enrolling eligible patients, often based on the number of clinical trials, particularly in oncology, with enrollment criteria targeting the same patient population;
- significant reprioritization and diversion of healthcare resources away from the conduct of clinical trials as a result of the COVID-19 pandemic, including the diversion of hospitals serving as our clinical trial sites and hospital staff supporting the conduct of our clinical trials;
- difficulty identifying a clinical development pathway, including viable indications and appropriate clinical trial protocol design, particularly where there is no applicable regulatory precedent;
- delays or failures in obtaining regulatory authorization to commence a trial because of safety concerns of regulators relating to our product candidates or similar product candidates of our competitors or failure to follow regulatory guidelines;
- interruption of key clinical trial activities, such as clinical trial site monitoring, due to limitations on travel, quarantines or social distancing protocols imposed or recommended by federal or state governments, employers and others in connection with the COVID-19 pandemic;
- delays or failures in obtaining clinical materials and manufacturing sufficient quantities of the product candidate for use in trials;
- delays or failures in reaching agreement on acceptable terms with prospective study sites;
- delays or failures in obtaining approval of our clinical trial protocol from an institutional review board, known as an ethics committee in Europe, to conduct a clinical trial at a prospective study site;
- failure of our clinical trials and clinical investigators, including contract research organizations or other third parties assisting us with clinical trials, to satisfactorily perform their contractual duties, meet expected deadlines and comply with FDA and other regulatory agencies' requirements, including good clinical practices;
- unforeseen safety issues;
- inability to monitor patients adequately during or after treatment;
- difficulty monitoring multiple study sites; or
- insufficient funds to complete the trials.

In light of the evolving effects of the COVID-19 pandemic, we have taken measures to implement remote and virtual approaches, including remote data monitoring where possible, to maintain patient safety and trial continuity and to preserve study integrity. We have seen limited COVID-19-related impact to our mid- and late-stage clinical trial activity, despite delays in initiating trial sites. For example, while we temporarily suspended two of our healthy volunteer clinical development programs, JZP-385 and JZP-324, in the interest of volunteer safety, we were able to restart these clinical trials in the third quarter of 2020 with the implementation of appropriate safety protocols. While it has not been the case thus far, we could still see an impact on the ability to supply study drug, report trial results, or interact with regulators, ethics committees or other important agencies due to limitations in regulatory authority employee resources or otherwise. In addition, we rely on contract research organizations or other third parties to assist us with clinical trials, and we cannot guarantee that they will continue to perform their contractual duties in a timely and satisfactory manner as a result of the evolving effects of the COVID-19 pandemic. If these effects become more severe, we could experience significant disruptions to our clinical development timelines, which would adversely affect our business, financial condition, results of operations and growth prospects. In addition, some patients may not be able to comply with clinical trial protocols if quarantines impede patient movement or interrupt healthcare services. Similarly, our ability to recruit and retain patients and principal investigators and site staff who, as healthcare providers, may have heightened exposure to COVID-19, may adversely impact our clinical trial operations.

Risks Related to Our Intellectual Property

It is difficult and costly to protect our proprietary rights, and we may not be able to ensure their protection.

Our commercial success depends in part on obtaining, maintaining and defending intellectual property protection for our products and product candidates, including protection of their use and methods of manufacturing and distribution. Our ability to protect our products and product candidates from unauthorized making, using, selling, offering to sell or importation by third parties depends on the extent to which we have rights under valid and enforceable patents or have adequately protected trade secrets that cover these activities.

The degree of protection to be afforded by our proprietary rights is uncertain because legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. For example:

- our patent applications, or those of our licensors or partners, may not result in issued patents;
- others may independently develop similar or therapeutically equivalent products without infringing our patents, or those of our licensors, such as products that are not covered by the claims of our patents, or for which we do not have adequate exclusive rights under our license agreements;
- our issued patents, or those of our licensors or partners, may be held invalid or unenforceable as a result of legal challenges by third parties or may be vulnerable to legal challenges as a result of changes in applicable law;
- we or our licensors or partners might not have been the first to invent or file, as appropriate, subject matters covered by our issued patents or pending patent applications or those of our licensors or partners;
- competitors may manufacture products in countries where we have not applied for patent protection or that have a different scope of patent protection or that do not respect our patents; or
- others may be issued patents that prevent the sale of our products or require licensing and the payment of significant fees or royalties.

Patent enforcement generally must be sought on a country-by-country basis, and issues of patent validity and infringement may be judged differently in different countries. For example, in the EU, approval of a generic pharmaceutical product can occur independently of whether the reference brand product is covered by patents, and enforcement of such patents generally must await approval and an indication that the generic product is being offered for sale.

Changes in either the patent laws or in interpretations of patent laws in the U.S. and other countries may diminish the value of our intellectual property portfolio. Even if we are able to obtain patents covering our products and product candidates, any patent may be challenged, and potentially invalidated or held unenforceable, including through patent litigation or through patent office procedures that permit challenges to patent validity. Patents can also be circumvented, potentially including by FDA approval of an ANDA or Section 505(b)(2) application that avoids infringement of our intellectual property.

We have settled patent litigation with nine companies seeking to introduce generic versions of Xyrem in the U.S. by granting those companies licenses to launch their generic products (and in certain cases, an authorized generic version of Xyrem) in advance of the expiration of the last of our patents. Notwithstanding our Xyrem patents and settlement agreements, additional third parties may also attempt to introduce generic versions of Xyrem or other sodium oxybate products for treatment of cataplexy and/or EDS in narcolepsy that design around our patents or assert that our patents are invalid or otherwise unenforceable. Such third parties could launch a generic or 505(b)(2) product referencing Xyrem before the dates provided in our patents or settlement agreements. For example, we have several method of use patents listed in FDA's publication "Approved Drug Products with Therapeutic Equivalence Evaluations," or the Orange Book, that expire in 2033 that cover treatment methods included in the Xyrem label related to a drug-drug interaction, or DDI, with divalproex sodium. Although FDA has stated, in granting a Citizen Petition we submitted in 2016, that it would not approve any sodium oxybate ANDA referencing Xyrem that does not include the portions of the currently approved Xyrem label related to the DDI patents, we cannot predict whether a future ANDA filer, or a company that files a Section 505(b)(2) application for a drug referencing Xyrem, may pursue regulatory strategies to avoid infringing our DDI patents notwithstanding FDA's response to the Citizen Petition, or whether any such strategy would be successful. Likewise, we cannot predict whether we will be able to maintain the validity of these patents or will otherwise obtain a judicial determination that a generic or other sodium oxybate product, its package insert or the generic sodium oxybate REMS or another separate REMS will infringe any of our patents or, if we prevail in proving infringement, whether a court will grant an injunction that prevents a future ANDA filer or other company introducing a different sodium oxybate product from marketing its product, or instead require that party to pay damages in the form of lost profits or a reasonable royalty.

Since Xyrem's regulatory exclusivity has expired in the EU, we are aware that generic or hybrid generic applications have been approved by various EU regulatory authorities, and additional generic or hybrid generic applications may be submitted and approved. We cannot predict whether our licensee in the EU will be able to enforce our existing European patents against generic or hybrid generic filers in the EU.

We also currently rely on trade secret protection for several of our products, including Erwinaze and Defitelio. Trade secret protection does not protect information or inventions if another party develops that information or invention

independently, and establishing that a competitor developed a product through trade secret misappropriation rather than through legitimate means may be difficult to prove. Trade secret protection also requires that information be secret and subject to reasonable efforts to maintain secrecy, and this requirement may come into conflict with requirements to provide information to employees, consultants, business partners, and regulatory bodies. We seek to protect our trade secrets and other unpatented proprietary information in part through confidentiality and invention agreements with our employees, consultants, advisors and partners. Nevertheless, our employees, consultants, advisors and partners may unintentionally or willfully disclose our proprietary information to competitors, and we may not have adequate remedies for such disclosures. Moreover, if a dispute arises with our employees, consultants, advisors or partners over the ownership of rights to inventions, including jointly developed intellectual property, we could lose patent protection or the confidentiality of our proprietary information, and possibly also lose the ability to pursue the development of certain new products or product candidates.

We have incurred and may in the future incur substantial costs as a result of litigation or other proceedings relating to patents, other intellectual property rights and related matters, and we may be unable to protect our rights to, or commercialize, our products.

Our ability, and that of our partners, to commercialize any approved products will depend, in part, on our ability to obtain patents, enforce those patents and operate without infringing the proprietary rights of third parties. If we choose to go to court to stop a third party from infringing our patents, our licensed patents or our partners' patents, that third party has the right to ask the court or an administrative agency to rule that these patents are invalid and/or should not be enforced. These lawsuits and administrative proceedings are expensive and consume time and other resources, and we may not be successful in these proceedings or in stopping infringement. In addition, the inter partes review process, or IPR, under the Leahy-Smith America Invents Act permits any person, whether they are accused of infringing the patent at issue or not, to challenge the validity of certain patents through a proceeding before the Patent Trial and Appeal Board, or PTAB, of the U.S. Patent and Trademark Office.

There is a risk that a court or the PTAB could decide that our patents or certain claims in our patents are not valid or infringed, and that we do not have the right to stop a third party from using the inventions covered by those claims, as happened with six of our patents covering the Xywav and Xyrem REMS, which were invalidated through the IPR process and delisted from the Orange Book. In addition, even if we prevail in establishing that another product infringes a valid claim of one of our patents, a court may determine that we can be compensated for the infringement in damages, and refuse to issue an injunction. As a result, we may not be entitled to stop another party from infringing our patents for their full term.

Litigation involving patent matters is frequently settled between the parties, rather than continuing to a court ruling, and we have settled patent litigation with all nine Xyrem ANDA filers. The FTC has publicly stated that, in its view, certain types of agreements between branded and generic pharmaceutical companies related to the settlement of patent litigation or the manufacture, marketing and sale of generic versions of branded drugs violate the antitrust laws and has commenced investigations and brought actions against some companies that have entered into such agreements. In particular, the FTC has expressed its intention to take aggressive action to challenge settlements that include an alleged transfer of value from the brand company to the generic company (so-called "pay for delay" patent litigation settlements). The U.S. Congress and state legislatures have also identified pharmaceutical patent litigation settlements as potential impediments to generic competition and have introduced, and in states like California passed, legislation to regulate them. Third party payors have also challenged such settlements on the grounds that they increase drug prices. Because there is currently no precise legal standard with respect to the lawfulness of such settlements, many pharmaceutical companies, including us, have faced extensive litigation over whether patent litigation settlements they have entered into are reasonable and lawful. From June to September 2020, a number of class action lawsuits were filed on behalf of purported direct and indirect Xyrem purchasers, alleging that the patent litigation settlement agreements we entered with Hikma and other ANDA filers violate state and federal antitrust and consumer protection laws. For additional information on these class action complaints, see Note 13, Commitments and Contingencies-Legal Proceedings of the Notes to Consolidated Financial Statements included in this Annual Report on Form 10-K. It is possible that additional lawsuits will be filed against us making similar or related allegations. We cannot predict the outcome of these or potential additional lawsuits or government actions; however, if the plaintiffs in the class action complaints were to be successful in their claims, they may be entitled to injunctive relief or we may be required to pay significant monetary damages, which could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

Parties to such settlement agreements in the U.S. are required by law to file the agreements with the FTC and the U.S. Department of Justice, or DOJ, for review. Accordingly, we have submitted our patent litigation settlement agreements to the FTC and the DOJ for review. We may receive formal or informal requests from the FTC regarding our ANDA litigation settlements, and there is a risk that the FTC may commence a formal investigation or action against us, which could divert the attention of management and cause us to incur significant costs, regardless of the outcome. Any claim or finding that we or our business partners have failed to comply with applicable laws and regulations could be costly to us and could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

A third party may claim that we or our manufacturing or commercialization partners are using inventions covered by the third party's patent rights, or that we or such partners are infringing, misappropriating or otherwise violating other intellectual property rights, and may go to court to stop us from engaging in our normal operations and activities, including making or selling our products. Such lawsuits are costly and could affect our results of operations and divert the attention of management and development personnel. There is a risk that a court could decide that we or our partners are infringing, misappropriating or otherwise violating third party patent or other intellectual property rights, which could be very costly to us and have a material adverse effect on our business. If we are sued for patent infringement, we would need to demonstrate that our products or methods do not infringe the patent claims of the relevant patent and/or that the patent claims are invalid or unenforceable, which we may not be able to do.

Other Risks Related to Our Business and Industry

Changes in the market for directors and officers liability insurance could make it more difficult and more expensive for us to obtain directors and officers liability insurance, and such insurance coverage may have reduced policy limits and coverage, may not be sufficient to cover our potential liabilities and may make it more difficult for us to attract and retain directors and officers.

In recent months, the market for directors and officers liability insurance for biopharmaceuticals and life sciences companies has changed in ways adverse to us. Fewer insurance companies are offering quotes for directors and officers liability coverage, the premiums charged for such policies have generally increased and the terms of such policies have generally become less favorable, and these trends may continue or worsen in the future. In addition, these market conditions are generally presenting more challenges for companies like ours that actively pursue corporate development transactions such as the GW Acquisition and that experience regular share price volatility, including volatility that may be unrelated or disproportionate to our operating performance. As a result, it is currently expensive and may become significantly more expensive for us to maintain directors and officers liability insurance, and we may be required to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. In any event, there can be no assurance that directors and officers liability insurance will be adequate to cover our potential liabilities or will be generally available to us in the future or, if available, that the cost of such insurance will be commercially justifiable. The increased cost and decreased availability of directors and officers liability insurance could make it more difficult for us to attract and retain qualified persons to serve on our board of directors or as executive officers, and could also make it more difficult and more expensive for us to negotiate and consummate future corporate development transactions, all of which could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

Our business is currently adversely affected and could be materially and adversely affected in the future by the evolving effects of the COVID-19 pandemic and related global economic slowdown as a result of the current and potential future impacts on our commercialization efforts, clinical trial activity, research and development activities, supply chain and corporate development activities and other business operations, in addition to the impact of a global economic slowdown.

The COVID-19 pandemic continues to have a significant impact on the global healthcare delivery system. Many healthcare systems have had to restructure operations to prioritize caring for COVID-19 patients and limit or cease other activities. The severe burden on healthcare systems caused by this pandemic has impaired the ability to diagnose and treat patients with non-COVID-19 related conditions and impaired the ability of many clinical research sites to start new studies, enroll new patients and monitor patients in clinical trials. The evolving effects of the COVID-19 pandemic and government measures taken in response have had a significant impact, both direct and indirect, on businesses and commerce, as significant reductions in business related activities have occurred, supply chains have been disrupted, and manufacturing and clinical development activities have been curtailed or suspended.

Continued remote work policies, quarantines, shelter-in-place and similar government orders, shutdowns or other restrictions on the conduct of business operations related to the effects of the COVID-19 pandemic may materially and adversely affect our business, our ability to generate sales of and revenues from our approved products, our supply chain, regulatory, clinical development and corporate development activities. With respect to our commercialization activities, the evolving effects of the COVID-19 pandemic continue to have a negative impact on demand, new patient starts and treatments for our products, primarily due to the inherent limitations of telemedicine and a reprioritization of healthcare resources toward COVID-19. Due to the nature of the pandemic, we are not able to accurately predict the duration or extent of these impacts on demand for our products. Beginning in March 2020, we transitioned our field-based sales, market access, reimbursement and medical employees out of the field and suspended work-related travel and in-person customer interactions. We utilized technology to continue to engage healthcare professionals and other customers virtually to support patient care. In late June 2020, as clinics and institutions began to allow in-person interactions pursuant to local health authority and government guidelines, our field teams resumed in-person interactions with healthcare professionals and clinics combined with virtual

engagement. The level of renewed engagement varies by account, region and country and may be adversely impacted in the future as a result of the continuing impact of the COVID-19 pandemic.

For Xyrem and Xywav, COVID-19 protocols and staffing shortages at sleep labs across the U.S. have resulted in reduced access to sleep testing. Since the end of the first quarter of 2020, we have seen a decline in prescribers' ability to diagnose new narcolepsy patients and a related overall decline in new patients starting on therapy. Although patient persistence and compliance with oxybate therapy have increased during 2020, we continue to expect that delays in obtaining a narcolepsy diagnosis will have a negative impact on new Xyrem and Xywav patient enrollments in future quarters. For Sunosi, the impact on demand has been primarily related to the reduced ability of our field-based teams to interact with prescribers and patients' inability to meet with healthcare providers during this time. As a result, we have seen slower than expected growth of Sunosi prescribers and new patient starts in the U.S. We also anticipate that pricing and reimbursement reviews by certain European regulatory authorities may take longer in certain countries due to the pandemic, which could delay our rolling Sunosi launch in those EU member states. In addition, due to the ongoing impacts of the COVID-19 pandemic, we continue to expect a negative impact on demand for and utilization of Defitelio and Vyxeos.

We have also seen an upward trend in demand for patient assistance programs since the end of the first quarter of 2020. In this regard, total net product sales of Xywav for the year ended December 31, 2020 were offset by the cost of launch related co-pay coupons and a free product program for qualified patients. Depending on the ultimate duration and severity of the COVID-19 pandemic and the extent of a global economic slowdown, widespread unemployment and resulting loss of employer-sponsored insurance coverage, we may experience an increasing shift from commercial payor coverage to government payor coverage or increasing demand for patient assistance and/or free drug programs, which could continue to adversely affect net product sales.

In addition, the COVID-19 pandemic continues to rapidly evolve and has resulted in significant volatility in the global financial markets. If this volatility persists and deepens, we could experience an inability to access additional capital or an impact on liquidity, which could in the future negatively affect our capacity for certain corporate development transactions or our ability to make other important, opportunistic investments. In addition, the current recession or additional market corrections resulting from the impact of the evolving effects of the COVID-19 pandemic could materially affect our business and the value of our ordinary shares. While we expect these effects to adversely affect our business operations and financial results, the extent of the impact on our ability to generate sales of and revenues from our approved products, execute on new product launches, our clinical development and regulatory efforts, our corporate development objectives and the value of and market for our ordinary shares, will depend on future developments that are highly uncertain and cannot be predicted with confidence at this time, such as the ultimate duration and severity of the pandemic, governmental "stay-at-home" orders and travel restrictions, quarantines, social distancing and business closure requirements in the U.S., Ireland and other countries, and the effectiveness of actions taken globally to contain and treat the disease, including the effectiveness and timing of vaccination programs in the U.S. and worldwide. For example, the inability of our workforce to return to office and field-based work and the ongoing stress and reprioritization within the healthcare systems in our key markets may require us to reassess the timing and scope of key business activities for the remainder of 2021, including with respect to our ability to continue the launch momentum for Sunosi, Xywav and Zepzelca. These effects could materially and adversely affect our business, financial condition, results of operations and growth prospects, as further described in the risks and uncertainties described elsewhere in this ''Risk Factors'' section.

We have substantially expanded our international footprint and operations, and we may expand further in the future, which subjects us to a variety of risks and complexities which, if not effectively managed, could negatively affect our business.

We are headquartered in Dublin, Ireland and have multiple offices in the U.S., Canada, the UK, Italy and other countries in Europe and an affiliate in Australia. We may further expand our international operations into other countries in the future, either organically or by acquisition. Conducting our business in multiple countries subjects us to a variety of risks and complexities that may materially and adversely affect our business, results of operations, financial condition and growth prospects, including:

- the diverse regulatory, financial and legal requirements in the countries where we are located or do business, and any changes to those requirements;
- the impact of Brexit on trade relations between the EU and the UK;
- challenges inherent in efficiently managing employees in diverse geographies, including the need to adapt systems, policies, benefits and compliance programs to differing labor and employment law and other regulations, as well as maintaining positive interactions with our unionized employees;
- costs of, and liabilities for, our international operations, products or product candidates; and
- public health risks, such as the COVID-19 pandemic and potential related effects on supply chain, travel and employee health and availability.

In addition, there can be no guarantee that we will effectively manage the increasing, global complexity of our business without experiencing operating inefficiencies or control deficiencies. Our failure to do so could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

The UK's withdrawal from the EU, commonly referred to as Brexit, could increase our cost of doing business, reduce our gross margins or otherwise negatively impact our business and our financial results.

Brexit will continue to create significant uncertainty concerning the future relationship between the UK and the EU, following the UK withdrawal from the EU in January 2020. Since a significant portion of the regulatory framework in the UK is derived from EU laws, Brexit materially impacts the regulatory regime with respect to the development, manufacture, importation, approval and commercialization of our product candidates in the UK or the EU. In this regard, in December 2020, the EU and UK reached an agreement in principle on the framework for their future relationship, the EU-UK Trade and Cooperation Agreement, or TCA. The TCA primarily focuses on ensuring free trade between the EU and the UK in relation to goods, including medicinal products. Although the body of the TCA includes general terms which apply to medicinal products, greater detail on sector-specific issues is provided in an Annex to the TCA. The Annex provides a framework for the recognition of Good Manufacturing Practice, or GMP, inspections and for the exchange and acceptance of official GMP documents. The regime does not, however, extended to procedures such as batch release certification. Among the changes that will now occur are that Great Britain (England, Scotland and Wales) will be treated as a third country. Northern Ireland will, with regard to EU regulations, continue to follow the EU regulatory rules. As part of the TCA, the EU and the UK will recognize GMP inspections carried out by the other party and the acceptance of official GMP documents issued by the other party. The TCA also encourages, although it does not oblige, the parties to consult one another on proposals to introduce significant changes to technical regulations or inspection procedures. Among the areas of absence of mutual recognition are batch testing and batch release. The UK has unilaterally agreed to accept EU batch testing and batch release for a period of at least 2 years until January 1, 2023. However, the EU continues to apply EU laws that require batch testing and batch release to take place in the EU territory. This means that medicinal products that are tested and released in the UK must be retested and re-released when entering the EU market for commercial use. As it relates to marketing authorizations, Great Britain will have a separate regulatory submission process, approval process and a separate national marketing authorization. Northern Ireland will, however, continue to be covered by the marketing authorizations granted by the EC. For example, the scope of a marketing authorization for a medicinal product granted by the EC or by the competent authorities of EU member states will no longer encompass Great Britain (England, Scotland and Wales). In these circumstances, a separate marketing authorization granted by the UK competent authorities will be required to place medicinal products on the market in Great Britain. Northern Ireland will, however, continue to be covered by the marketing authorizations granted by the EC. All of these changes could increase our costs and otherwise adversely affect our business.

We have an office in Oxford, England, which is focused on commercialization of our products outside of the U.S. We do not know to what extent, or when, the UK's withdrawal from the EU will impact our business, particularly our ability to conduct international business from a base of operations in the UK. The UK could lose the benefits of global trade agreements negotiated by the EU on behalf of its member states, possibly resulting in increased trade barriers, which could make doing business in Europe more difficult and/or costly. Moreover, in the U.S., tariffs on certain U.S. imports have been imposed, and the EU and other countries have responded with retaliatory tariffs on certain U.S. exports. We cannot predict what effects these and potential additional tariffs will have on our business, including in the context of escalating global trade and political tensions. However, these tariffs and other trade restrictions, whether resulting from the UK's withdrawal from the EU or otherwise, could increase our cost of doing business, reduce our gross margins or otherwise negatively impact our business and our financial results.

Significant disruptions of information technology systems or data security breaches could adversely affect our business.

In the ordinary course of our business, we collect, store, process and transmit large amounts of confidential information, including intellectual property, proprietary business information and personal data. We have also outsourced some of our operations (including parts of our information technology infrastructure) to a number of third party vendors who may have, or could gain, access to our confidential information. In addition, many of those third parties, in turn, subcontract or outsource some of their responsibilities to third parties.

Our information technology systems, and those of our vendors, are large and complex and store large amounts of confidential information. The size and complexity of these systems make them potentially vulnerable to service interruptions or to security breaches from inadvertent or intentional actions by our employees, third party vendors and/or business partners, or from cyber-attacks by malicious third parties. Attacks of this nature are increasing in frequency, persistence, sophistication and intensity, and are being conducted by sophisticated and organized groups and individuals with a wide range of motives (including, but not limited to, industrial espionage) and expertise, including organized criminal groups, "hacktivists," nation states and others. In addition to the extraction of important information, such attacks could include the deployment of harmful malware, ransomware, denial-of-service attacks, social engineering and other means to affect service reliability and threaten the confidentiality, integrity and availability of our information. Although the aggregate impact on our operations and financial

condition has not been material to date, we and our vendors have been the target of events of this nature and expect them to continue.

Significant disruptions of our, our third party vendors' and/or business partners' information technology systems or security breaches, including in our remote work environment as a result of the COVID-19 pandemic, could adversely affect our business operations and/or result in the loss, misappropriation, and/or unauthorized access, use or disclosure of, or the prevention of access to, confidential information (including trade secrets or other intellectual property, proprietary business information and personal data), and could result in financial, legal, business and reputational harm to us. Any such event that leads to unauthorized access, use or disclosure of personal data, including personal data regarding our patients or employees, could harm our reputation, compel us to comply with federal and/or state breach notification laws and foreign law equivalents, subject us to mandatory corrective action, require us to verify the correctness of database contents and otherwise subject us to liability under laws and regulations that protect the privacy and security of personal data. This could disrupt our business, result in increased costs or loss of revenue, and/or result in significant legal and financial exposure. In addition, security breaches and other inappropriate access can be difficult to detect, and any delay in identifying them may further harm us. Moreover, the prevalent use of mobile devices to access confidential information increases the risk of security breaches. While we have implemented security measures to protect our information technology systems and infrastructure, there can be no assurance that such measures will prevent service interruptions or security breaches that could adversely affect our business. In addition, failure to maintain effective internal accounting controls related to security breaches and cybersecurity in general could impact our ability to produce timely and accurate financial statements and subject us to regulatory scrutiny.

We are subject to significant ongoing regulatory obligations and oversight, which may result in significant additional expense and limit our ability to commercialize our products.

FDA and Equivalent Non-U.S. Regulatory Authorities

Our activities are subject to extensive regulation encompassing the entire life cycle of our products, from research and development activities to marketing approval (including specific post-marketing obligations), manufacturing, labeling, packaging, adverse event and safety reporting, storage, advertising, promotion, sale, pricing and reimbursement, recordkeeping, distribution, importing and exporting. The failure by us or any of our third party partners, including our corporate development and collaboration partners, clinical trial sites, suppliers, distributors and our central pharmacy for Xyrem and Xywav, to comply with applicable requirements could subject us to administrative or judicial sanctions or other negative consequences, such as delays in approval or refusal to approve a product candidate, restrictions on our products, our suppliers, our other partners or us, the withdrawal, suspension or variation of product approval or manufacturing authorizations, untitled letters, warning letters, fines and other monetary penalties, unanticipated expenditures, product recall, withdrawal or seizure, total or partial suspension of production or distribution, interruption of manufacturing or clinical trials, operating restrictions, injunctions, suspension of licenses, civil penalties and/or criminal prosecution, any of which could result in a significant drop in our revenues from the affected products and harm to our reputation and could have a significant impact on our sales, business and financial condition.

We monitor adverse events resulting from the use of our products, as do the regulatory authorities, and we file periodic reports with the authorities concerning adverse events. The authorities review these events and reports, and if they determine that any events and/or reports indicate a trend or signal, they can require a change in a product label, restrict sales and marketing and/or require conduct or other actions, potentially including variation, withdrawal or suspension of the marketing authorization, any of which could result in reduced market acceptance and demand for our products, could harm our reputation and our ability to market our products in the future, and could have a material adverse effect on our business, financial condition, results of operations and growth prospects. FDA, the competent authorities of the EU member states on behalf of the EMA, and the competent authorities of other European countries, also periodically inspect our records related to safety reporting. The EMA's Pharmacovigilance Risk Assessment Committee may propose to the Committee for Medicinal Products for Human Use that the marketing authorization holder be required to take specific steps or advise that the existing marketing authorization be varied, suspended or revoked. Failure to adequately and promptly correct the observation(s) can result in further regulatory enforcement action, which could include the variation, suspension or withdrawal of marketing authorization or imposition of financial penalties or other enforcement measures.

Erwinaze, defibrotide and Vyxeos are available on a named patient basis or through a compassionate use process in many countries where they are not commercially available. If any such country's regulatory authorities determine that we are promoting such products without proper authorization, we could be found to be in violation of pharmaceutical advertising laws or the regulations permitting sales under named patient programs. In that case, we may be subject to financial or other penalties. Any failure to maintain revenues from sales of Erwinaze, defibrotide and/or Vyxeos on a named patient basis and/or to generate revenues from commercial sales of these products exceeding historical sales on a named patient basis could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

FDA, the competent authorities of the EU member states and other European countries, and other governmental authorities require advertising and promotional materials to be truthful and not misleading, and products to be marketed only

for their approved indications and in accordance with the provisions of the approved label. Regulatory authorities actively investigate allegations of off-label promotion in order to enforce regulations prohibiting these types of activities. A determination that we have promoted an approved product for off-label uses could subject us to significant liability, including civil and administrative financial penalties and other remedies as well as criminal financial penalties, other sanctions and imprisonment. Even if we are not determined to have engaged in off-label promotion, an allegation that we have engaged in such activities could have a significant impact on our sales, business and financial condition. The U.S. government has also required companies to enter into complex corporate integrity agreements and/or non-prosecution agreements that impose significant reporting and other burdens on the affected companies. Failure to maintain a comprehensive and effective compliance program, and to integrate the operations of acquired businesses into a combined comprehensive and effective compliance program on a timely basis, could subject us to a range of regulatory actions and/or civil or criminal penalties that could affect our ability to commercialize our products and could harm or prevent sales of the affected products, or could substantially increase the costs and expenses of commercializing and marketing our products.

Other Regulatory Authorities

We are also subject to regulation by other regional, national, state and local agencies, including the DEA, the DOJ, the FTC, the United States Department of Commerce, the Office of Inspector General of the U.S. Department of Health and Human Services, or OIG, and other regulatory bodies, as well as similar governmental authorities in those non-U.S. countries in which we commercialize our products.

We are subject to numerous fraud and abuse laws and regulations globally and our sales, marketing, patient support and medical activities may be subject to scrutiny under these laws and regulations. These laws are described in "Business—Government Regulation" in Part I, Item 1 of this Annual Report on Form 10-K. While we maintain a comprehensive compliance program to try to ensure that our practices and the activities of our third-party contractors and employees fall within the scope of available statutory exceptions and regulatory safe harbors whenever possible, and otherwise comply with applicable laws, regulations or guidance, regulators and enforcement agencies may disagree with our assessment or find fault with the conduct of our employees or contractors. In addition, existing regulations are subject to regulatory revision or changes in interpretation by the DOJ or OIG. For example, in November 2020, the U.S. Department of Health and Human Services finalized a previously abandoned proposal to amend the discount safe harbor regulation of the federal anti-kickback statute in a purported effort to create incentives to manufacturers to lower their list prices, and to lower federal program beneficiary out-of-pocket costs. The rule, which takes full effect January 1, 2022, revises the discount safe harbor to exclude manufacturer rebates to Medicare Part D plans, either directly or through PBMs, creates a new safe harbor for point-of-sale price reductions that are set in advance and are available to the beneficiary at the point-of-sale, and creates a new safe harbor for service fees paid by manufacturers to PBMs for services rendered to the manufacturer. It is too early to know what the effect of the rule will be on negotiations of coverage for our products with Medicare Part D plans, or whether the rule will affect our coverage arrangements with commercial insurers. It is also unclear whether the rule will have the intended effect of reducing net prices and beneficiary out-of-pocket costs without also increasing Medicare Part D premiums, which may impact the willingness of Part D plans to cover our products and the price concessions or other terms the plans or their PBMs may seek from us.

Many companies have faced government investigations or lawsuits by whistleblowers who bring a *qui tam* action under the False Claims Act on behalf of themselves and the government for a variety of alleged improper marketing activities, including providing free product to customers expecting that the customers would bill federal programs for the product, providing consulting fees, grants, free travel and other benefits to physicians to induce them to prescribe the company's products, and inflating prices reported to private price publication services, which are used to set drug reimbursement rates under government healthcare programs. In addition, the government and private whistleblowers have pursued False Claims Act cases against pharmaceutical companies for causing false claims to be submitted as a result of the marketing of their products for unapproved uses or violations of the federal anti-kickback statute. If we become the subject of a government False Claims Act or other investigation or whistleblower suit, we could incur substantial legal costs (including settlement costs) and business disruption responding to such investigation or suit, regardless of the outcome.

Public reporting under the Physician Payment Sunshine Act, or Sunshine provisions, and other similar state laws, the requirements of which are discussed in "Business—Government Regulation" in Part I, Item 1 of this Annual Report on Form 10-K, has resulted in increased scrutiny of the financial relationships between industry, teaching hospitals, physicians and other healthcare providers. Such scrutiny may negatively impact our ability to engage with physicians and other health care providers on matters of importance to us. In addition, government agencies and private entities may inquire about our marketing practices or pursue other enforcement activities based on the disclosures in those public reports. If the data reflected in our reports are found to be in violation of any of the Sunshine provisions or any other U.S. federal, state or local laws or regulations that may apply, or if we otherwise fail to comply with the Sunshine provisions or similar requirements of state or local regulators, we may be subject to significant civil, and administrative penalties, damages or fines.

We have various programs to help patients access our products, including patient assistance programs, which include co-pay coupons for certain of our products, assistance to help patients determine their insurance coverage for our products, and a

free product program. Co-pay coupon programs for commercially insured patients, including our program for Xyrem, have received negative publicity related to allegations regarding their use to promote branded pharmaceutical products over other less costly alternatives, and some states have imposed restrictions on manufacturer co-pay programs when therapeutic equivalents are available. In September 2014, the OIG issued a Special Advisory Bulletin warning manufacturers that they may be subject to sanctions under the federal Anti-Kickback Statute and other laws if they do not take appropriate steps to exclude Medicare Part D beneficiaries from using co-pay coupons. It is possible that changes in insurer policies regarding co-pay coupons and/or the introduction and enactment of new legislation or regulatory action could restrict or otherwise negatively affect these patient support programs, which could result in fewer patients using affected products, including Xyrem, and therefore could have a material adverse effect on our sales, business and financial condition.

We have established programs to consider grant applications submitted by independent charitable organizations, including organizations that provide co-pay support to patients who suffer from the diseases treated by our drugs. The OIG has issued guidance for how pharmaceutical manufacturers can lawfully make donations to charitable organizations who provide co-pay assistance to Medicare patients, provided that such organizations, among other things, are *bona fide* charities, are entirely independent of and not controlled by the manufacturer, provide aid to applicants on a first-come basis according to consistent financial criteria, and do not link aid to use of a donor's product. In April 2019, we finalized our civil settlement agreement with the DOJ and OIG and entered into a corporate integrity agreement requiring us to maintain our ongoing corporate compliance program and obligating us to implement or continue, as applicable, a set of defined corporate integrity activities for a period of five years from the effective date of the corporate integrity agreement. Although we have structured our programs to follow available guidance and the requirements of our corporate integrity agreement, if we or our vendors or donation recipients are deemed to fail to comply with relevant laws, regulations or evolving government guidance in the operation of these programs, such facts could be used as the basis for an enforcement action against us by the federal government or other enforcement agencies or private litigants, or we could become liable for payment of certain stipulated penalties or could be excluded from participation in federal health care programs, which would have a material adverse effect on our sales, business and financial condition.

We may also become subject to similar investigations by other state or federal governmental agencies or offices of our patient assistance programs or other business practices, which could result in damages, fines, penalties, exclusion from participation in federal health care programs or other criminal, civil or administrative sanctions or enforcement actions, as well as negative publicity, reduction in demand for, or patient access to, our products and/or reduce coverage of our products, including by federal and state health care programs. If any or all of these events occur, our business, financial condition, results of operations and stock price could be materially and adversely affected.

Our business activities outside of the U.S. are subject to the U.S. Foreign Corrupt Practices Act, or FCPA, and similar anti-bribery or anti-corruption laws, regulations or rules of other countries in which we operate, including the UK Bribery Act of 2010, or the UK Bribery Act. In certain countries, the health care providers who prescribe pharmaceuticals are employed by their government and the purchasers of pharmaceuticals are government entities; therefore, our dealings with these prescribers and purchasers may be subject to regulation under the FCPA and the UK Bribery Act. Recently the U.S. Securities and Exchange Commission and the DOJ have increased their FCPA enforcement activities with respect to pharmaceutical companies. Violation of these laws by us or our suppliers and other third party agents for which we may be liable may result in civil or criminal sanctions, which could include monetary fines, criminal penalties, and disgorgement of past profits, which could have a material adverse impact on our business and financial condition.

Outside the U.S., interactions between pharmaceutical companies and physicians are also governed by strict laws, such as national anti-bribery laws of European countries, national sunshine rules, regulations, industry self-regulation codes of conduct and physicians' codes of professional conduct. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines or imprisonment.

Xyrem, Sunosi and Xywav are controlled substances under the Controlled Substances Act. Our suppliers, distributors, clinical sites and prescribers, as well as retail pharmacies for Sunosi and the central pharmacy for Xyrem and Xywav, are subject to DEA and state regulations relating to manufacturing, storage, distribution and physician prescription procedures, including limitations on prescription refills, and are required to maintain DEA registration and state licenses, when handling these drugs and their APIs. The DEA periodically inspects facilities for compliance with its rules and regulations. Failure to comply with current and future regulations of the DEA, relevant state authorities or any comparable international requirements could lead to a variety of sanctions, including revocation or denial of renewal of DEA registrations, fines, injunctions, or civil or criminal penalties, could result in, among other things, additional operating costs to us or delays in shipments outside or into the U.S. and could have an adverse effect on our business and financial condition.

We are also subject to federal, state and international laws and regulations governing the privacy and security of the personal data we collect and maintain (e.g., Section 5 of the Federal Trade Commission Act, the California Consumer Privacy Act, or CCPA, and the EU's General Data Protection Regulation, or GDPR). These laws and regulations are evolving and subject to interpretation, and may impose limitations on our activities or otherwise adversely affect our business. Because of

the remote work policies we implemented due to the COVID-19 pandemic, information that is normally protected, including company confidential information, may be less secure. Cybersecurity and data security threats continue to evolve and raise the risk of an incident that could affect our operations or compromise our business information or sensitive personal data, including health data. We may also need to collect more extensive health-related information from our employees to manage our workforce. If we or our third party partners fail to comply or are alleged to have failed to comply with applicable data protection and privacy laws and regulations, and related employment rules, or if we were to experience a data breach involving personal data, we could be subject to government enforcement actions or private lawsuits. In addition, our business could be adversely impacted if our ability to transfer personal data outside of the European Economic Area or Switzerland is restricted, which could adversely impact our operating results. For example, in July 2020, the Court of Justice of the European Union, or the Court of Justice, declared the Privacy Shield Decision (Decision 2018/1250) invalid, which could adversely impact our ability to transfer personal data from the EU to the U.S. The Court of Justice further ruled that in order to transfer data outside of the EU, under the existing mechanism known as the Standard Contractual Clauses, or SCCs, the importing country's level of protection must be adequate. In addition, on September 8, 2020 the Federal Data Protection and Information Commissioner, or FDPIC, of Switzerland issued an opinion concluding that the Swiss-U.S. Privacy Shield Framework does not provide an adequate level of protection for data transfers from Switzerland to the United States. The FDPIC also found that SCCs may still be legally adequate at an individual level provided that they can pass a risk assessment conducted by the FDPIC. If the level of protection in the U.S. or any other importing country is called into question under the SCCs, this could further impact our ability to transfer data outside of the EU or Switzerland.

In addition, although we are not directly subject to privacy and security requirements under the Health Insurance Portability and Accountability Act of 1996 and its implementing regulations, or HIPAA, other than with respect to providing certain employee benefits, we potentially could be subject to criminal penalties if we, our affiliates or our agents knowingly obtain or disclose individually identifiable health information maintained by a HIPAA-covered entity in a manner that is not authorized or permitted by HIPAA. We also may obtain health information from third parties (including research institutions from which we obtain clinical trial data) that are subject to privacy and security requirements under HIPAA.

In addition, numerous other federal, state and international laws and regulations govern the privacy and security of the personal data we collect and maintain, including data breach notification laws, state health information and/or genetic privacy laws, federal and state consumer protection laws (e.g., Section 5 of the Federal Trade Commission Act, and CCPA), and laws outside of the United States that may apply to us, such as the GDPR and other country laws. Many of these laws and regimes, across countries but even within the United States across states, differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts. Compliance with these laws is difficult, constantly evolving, and time consuming. International regulators, federal regulators, state attorneys general, and plaintiffs' attorneys, including class action attorneys, have been and will likely continue to be active in this space.

In California, the CCPA took effect on January 1, 2020. The CCPA establishes certain requirements for data use and sharing transparency and creates new data privacy rights for consumers. These laws and regulations are evolving and subject to interpretation, and may impose limitations on our activities or otherwise adversely affect our business. Similarly, there are a number of legislative proposals in the European Union, the United States, at both the federal and state level, as well as other jurisdictions that could impose new obligations or limitations in areas affecting our business. In addition, some countries are considering or have passed legislation implementing data protection or privacy requirements or requiring local storage and processing of data or similar requirements that could increase the cost and complexity of delivering our services and research activities.

If we or our third party partners fail to comply or are alleged to have failed to comply with these or other applicable data protection and privacy laws and regulations, or if we were to experience a data breach involving personal data, we could be subject to government enforcement actions or private lawsuits. Any associated claims, inquiries, or investigations or other government actions could lead to unfavorable outcomes that have a material impact on our business including through significant penalties or fines, monetary judgments or settlements including criminal and civil liability for us and our officers and directors, increased compliance costs, delays or impediments in the development of new products, negative publicity, increased operating costs, diversion of management time and attention, or other remedies that harm our business, including orders that we modify or cease existing business practices.

If we fail to comply with our reporting and payment obligations under the Medicaid Drug Rebate program or other governmental pricing programs, we could be subject to additional reimbursement requirements, penalties, sanctions and fines, which could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

We participate in the Medicaid Drug Rebate program, the 340B program, the U.S. Department of Veterans Affairs, Federal Supply Schedule, or FSS, pricing program, and the Tricare Retail Pharmacy program, and have obligations to report the average sales price for certain of our drugs to the Medicare program. All of these programs are described in more detail under

the heading "Business—Pharmaceutical Pricing, Reimbursement by Government and Private Payors and Patient Access" in Part I, Item 1 of this Annual Report on Form 10-K.

Pricing and rebate calculations vary across products and programs, are complex, and are often subject to interpretation by us, governmental or regulatory agencies and the courts, which can change and evolve over time. In the case of our Medicaid pricing data, if we become aware that our reporting for a prior quarter was incorrect, or has changed as a result of recalculation of the pricing data, we are obligated to resubmit the corrected data for up to three years after those data originally were due. Such restatements and recalculations increase our costs for complying with the laws and regulations governing the Medicaid Drug Rebate program and could result in an overage or underage in our rebate liability for past quarters. Price recalculations also may affect the ceiling price at which we are required to offer our products under the 340B program.

Civil monetary penalties can be applied if we are found to have knowingly submitted any false price or product information to the government, if we are found to have made a misrepresentation in the reporting of our average sales price, if we fail to submit the required price data on a timely basis, or if we are found to have charged 340B covered entities more than the statutorily mandated ceiling price. The Centers for Medicare and Medicaid Services, or CMS, could also decide to terminate our Medicaid drug rebate agreement, in which case federal payments may not be available under Medicaid or Medicare Part B for our covered outpatient drugs. We cannot assure you that our submissions will not be found by CMS to be incomplete or incorrect.

Our failure to comply with our reporting and payment obligations under the Medicaid Drug Rebate program and other governmental programs could negatively impact our financial results. CMS issued a final regulation, which became effective on April 1, 2016, to implement the changes to the Medicaid Drug Rebate program under the Healthcare Reform Act. On December 21, 2020, CMS issued a final regulation that modified prior Medicaid Drug Rebate program regulations to permit reporting multiple best price figures with regard to value-based purchasing arrangements (beginning in 2022); provide definitions for "line extension," "new formulation," and related terms, with the practical effect of expanding the scope of drugs considered to be line extensions that are subject to an alternative rebate formula (beginning in 2022); and revise best price and average manufacturer price exclusions of manufacturer-sponsored patient benefit programs, specifically regarding applicability of such exclusions in the context of pharmacy benefit manager "accumulator" programs (beginning in 2023). It is currently unclear whether the Biden administration will delay or suspend implementation of this final rule. The issuance of the final regulation, as well as any other regulations and coverage expansion by various governmental agencies relating to the Medicaid Drug Rebate program, has increased and will continue to increase our costs and the complexity of compliance, has been and will continue to be time-consuming to implement, and could have a material adverse effect on our results of operations, particularly if CMS challenges the approach we take in our implementation of the final regulation.

The Health Resources and Services Administration, or HRSA, issued a final regulation regarding the calculation of the 340B ceiling price and the imposition of civil monetary penalties on manufacturers that knowingly and intentionally overcharge covered entities, which became effective on January 1, 2019. Implementation of this regulation could affect our obligations and potential liability under the 340B program in ways we cannot anticipate. We are also required to report the 340B ceiling prices for our covered outpatient drugs to HRSA, which then publishes them to 340B covered entities. Any charge by HRSA that we have violated the requirements of the program or the regulation could negatively impact our financial results. Moreover, HRSA newly established an administrative dispute resolution, or ADR, process under a final regulation effective January 13, 2021, for claims by covered entities that a manufacturer engaged in overcharging, and by manufacturers that a covered entity violated the prohibitions against diversion or duplicate discounts. Such claims are to be resolved through an ADR panel of government officials rendering a decision that could be appealed only in federal court. An ADR proceeding could potentially subject us to discovery by covered entities and other onerous procedural requirements and could result in additional liability.

Further, legislation may be introduced that, if passed, would further expand the 340B program to additional covered entities or would require participating manufacturers to agree to provide 340B discounted pricing on drugs used in an inpatient setting, and any additional future changes to the definition of average manufacturer price and the Medicaid rebate amount under the Healthcare Reform Act or otherwise could affect our 340B ceiling price calculations and negatively impact our results of operations.

We have obligations to report the average sales price for certain of our drugs to the Medicare program. Statutory or regulatory changes or CMS guidance could affect the average sales price calculations for our products and the resulting Medicare payment rate, and could negatively impact our results of operations.

Pursuant to applicable law, knowing provision of false information in connection with price reporting under the U.S. Department of Veterans Affairs, FSS or Tricare Retail Pharmacy, or Tricare, programs can subject a manufacturer to civil monetary penalties. These program obligations also contain extensive disclosure and certification requirements. If we overcharge the government in connection with our arrangements with FSS or Tricare, we are required to refund the difference to the government. Failure to make necessary disclosures and/or to identify contract overcharges can result in allegations against us under the False Claims Act and other laws and regulations. Unexpected refunds to the government, and responding

to a government investigation or enforcement action, would be expensive and time-consuming, and could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

Product liability and product recalls could harm our business.

The development, manufacture, testing, marketing and sale of pharmaceutical products are associated with significant risks of product liability claims or recalls. Side effects or adverse events known or reported to be associated with, or manufacturing defects in, the products sold by us could exacerbate a patient's condition, or could result in serious injury or impairment or even death. This could result in product liability claims against us and/or recalls of one or more of our products. In many countries, including in EU member states, national laws provide for strict (no-fault) liability which applies even where damages are caused both by a defect in a product and by the act or omission of a third party.

Product recalls may be issued at our discretion or at the discretion of our suppliers, government agencies and other entities that have regulatory authority for pharmaceutical sales. Any recall of our products could materially adversely affect our business by rendering us unable to sell that product for some time and by adversely affecting our reputation. A recall could also result in product liability claims by individuals and third party payors. In addition, product liability claims could result in an investigation of the safety or efficacy of our products, our manufacturing processes and facilities, or our marketing programs conducted by FDA, the EMA or the competent authorities of the EU member states. Such investigations could also potentially lead to a recall of our products or more serious enforcement actions, limitations on the therapeutic indications for which they may be used, or suspension, variation, or withdrawal of approval. Any such regulatory action by FDA, the EC or the competent authorities of the EU member states could lead to product liability lawsuits as well.

Product liability insurance coverage is expensive, can be difficult to obtain and may not be available in the future on acceptable terms, or at all. Our product liability insurance may not cover all of the future liabilities we might incur in connection with the development, manufacture or sale of our products. A successful claim or claims brought against us in excess of available insurance coverage could subject us to significant liabilities and could have a material adverse effect on our business, financial condition, results of operations and growth prospects. Such claims could also harm our reputation and the reputation of our products, adversely affecting our ability to market our products successfully.

We use hazardous materials in our manufacturing facilities, and any claims relating to the improper handling, storage, release or disposal of these materials could be time-consuming and expensive.

Our operations are subject to complex and increasingly stringent environmental, health and safety laws and regulations in the countries where we operate and, in particular, in Italy and Ireland where we have manufacturing facilities. If an accident or contamination involving pollutants or hazardous substances occurs, an injured party could seek to hold us liable for any damages that result and any liability could exceed the limits or fall outside the coverage of our insurance. We may not be able to maintain insurance with sufficient coverage on acceptable terms, or at all. Costs, damages and/or fines may result from the presence, investigation and remediation of such contamination at properties currently or formerly owned, leased or operated by us or at off-site locations, including where we have arranged for the disposal of hazardous substances or waste. In addition, we may be subject to third party claims, including for natural resource damages, personal injury and property damage, in connection with such contamination.

Risks Related to Our Financial Condition and Results

We have incurred substantial debt, which could impair our flexibility and access to capital and adversely affect our financial position, and our business would be adversely affected if we are unable to service our debt obligations.

As of December 31, 2020, we had total indebtedness of approximately $2.4 billion. Our substantial indebtedness may:

- limit our ability to borrow additional funds for working capital, capital expenditures, acquisitions or other general business purposes;
- limit our ability to use our cash flow or obtain additional financing for working capital, capital expenditures, acquisitions, investments or other general business purposes;
- require us to use a substantial portion of our cash flow from operations to make debt service payments;
- limit our flexibility to plan for, or react to, changes in our business and industry, or our ability to take specified actions to take advantage of certain business opportunities that may be presented to us;
- result in dilution to our existing shareholders in the event exchanges of our exchangeable senior notes are settled in our ordinary shares;
- place us at a competitive disadvantage compared to our less leveraged competitors; and
- increase our vulnerability to the impact of adverse economic and industry conditions.

If our cash flows and capital resources are insufficient to fund our debt service obligations, we may be forced to reduce or delay investments and capital expenditures, seek additional capital or restructure or refinance our debt. These alternative

measures may not be successful and may not permit us to meet our debt service obligations. In the absence of such cash flows and resources, we could face substantial liquidity problems and might be required to dispose of material assets or operations to meet our debt service and other obligations. In addition, if we are unable to repay amounts under our secured credit agreement that we entered into in June 2015 and subsequently amended, which we refer to as the amended credit agreement, the lenders under the amended credit agreement could proceed against the collateral granted to them to secure that debt, which would seriously harm our business.

Covenants in our amended credit agreement restrict our business and operations in many ways and if we do not effectively manage our covenants, our financial conditions and results of operations could be adversely affected.

The amended credit agreement contains various covenants that, among other things, limit our ability and/or our restricted subsidiaries' ability to:

- incur or assume liens or additional debt or provide guarantees in respect of obligations of other persons;
- pay dividends or distributions or redeem or repurchase capital stock;
- prepay, redeem or repurchase certain debt;
- make loans, investments, acquisitions (including acquisitions of exclusive licenses) and capital expenditures;
- enter into agreements that restrict distributions from our subsidiaries;
- sell assets and capital stock of our subsidiaries; and
- consolidate or merge with or into, or sell substantially all of our assets to, another person.

The amended credit agreement also includes certain financial covenants that require us to maintain a maximum secured leverage ratio and a minimum interest coverage ratio. Our failure to comply with any of the covenants could result in a default under the amended credit agreement, which could permit the lenders to declare all or part of any outstanding borrowings to be immediately due and payable, or to refuse to permit additional borrowings under the revolving credit facility. Moreover, our failure to repurchase our exchangeable senior notes at a time when the repurchase is required by the indentures governing our exchangeable senior notes or to pay any cash payable on future exchanges of our exchangeable senior notes as required by those indentures would constitute a default under those indentures. A default under those indentures could also lead to a default under other debt agreements or obligations, including the amended credit agreement. Likewise, a default under the amended credit agreement could also lead to a default under other debt agreements or obligations, including the indentures governing our exchangeable senior notes.

To continue to grow our business, we will need to commit substantial resources, which could result in future losses or otherwise limit our opportunities or affect our ability to operate and grow our business.

The scope of our business and operations has grown substantially since 2012, including through a series of business combinations and acquisitions. To continue to grow our business over the longer term, we plan to commit substantial resources to product acquisition and in-licensing, product development, clinical trials of product candidates and expansion of our commercial, development, manufacturing and other operations. Acquisition opportunities that we pursue could materially affect our liquidity and capital resources and may require us to incur additional indebtedness, seek equity capital or both. Our ability to raise additional capital may be adversely impacted by potential worsening global economic conditions and the recent disruptions to, and volatility in, the credit and financial markets in the U.S. and worldwide resulting from the effects of the COVID-19 pandemic. In addition, under Irish law, we must have authority from our shareholders to issue any ordinary shares, including ordinary shares that are part of our authorized but unissued share capital. Moreover, when an Irish company issues shares for cash to new shareholders, it is required first to offer those shares on the same or more favorable terms to existing shareholders on a pro-rata basis unless otherwise authorized by its existing shareholders. While we are currently authorized to issue all ordinary shares that are part of our authorized but unissued share capital on a non-pre-emptive basis, these share issuance authorities are scheduled to expire in August 2021. If we are unable to obtain renewal of our existing share issuance authorities from our shareholders, or are otherwise limited by the terms of new share issuance authorities approved by our shareholders, our ability to use our unissued share capital to effect or to fund in-licensing or acquisition opportunities, or to otherwise raise capital, could be adversely affected after expiration of our existing share issuance authorities in August 2021. An inability to borrow or raise additional capital on attractive terms, or at all, could prevent us from expanding our business and otherwise could have a material adverse effect on our business and growth prospects. In addition, if we use a substantial amount of our funds to acquire or in-license products or product candidates, we may not have sufficient additional funds to conduct all of our operations in the manner we would otherwise choose.

We have significant intangible assets and goodwill. Consequently, the future impairment of our intangible assets and goodwill may significantly impact our profitability.

Our intangible assets and goodwill are significant and are subject to an impairment analysis whenever events or changes in circumstances indicate the carrying amount of the asset may not be recoverable. Additionally, goodwill and indefinite-lived assets are subject to an impairment test at least annually. Events giving rise to impairment are an inherent risk in the pharmaceutical industry and cannot be predicted. Our results of operations and financial position in future periods could be

negatively impacted should future impairments of intangible assets or goodwill occur. For example, in the first quarter of 2020, we recorded a $136.1 million asset impairment charge following the decision to stop enrollment in our Phase 3 clinical study of defibrotide for the prevention of VOD due to a determination that the study is highly unlikely to reach one of its primary endpoints.

Our financial results have been and may continue to be adversely affected by foreign currency exchange rate fluctuations.

Because our financial results are reported in U.S. dollars, we are exposed to foreign currency exchange risk as the functional currency financial statements of non-U.S. subsidiaries are translated to U.S. dollars for reporting purposes. To the extent that revenue and expense transactions are not denominated in the functional currency, we are also subject to the risk of transaction losses. For example, because our Sunosi, Defitelio, Erwinase and Vyxeos product sales outside of the U.S. are primarily denominated in the euro, our sales of those products have been and may continue to be adversely affected by fluctuations in foreign currency exchange rates. Given the volatility of exchange rates, as well as our expanding operations, there is no guarantee that we will be able to effectively manage currency transaction and/or translation risks, which could adversely affect our operating results. Although we utilize foreign exchange forward contracts to manage currency risk primarily related to certain intercompany balances denominated in non-functional currencies, our efforts to manage currency risk may not be successful.

Changes in our effective tax rates could adversely affect our business and financial condition, results of operations and growth prospects.

We are incorporated in Ireland and maintain subsidiaries in North America and a number of other foreign jurisdictions. As a result, our effective tax rate is derived from a combination of applicable tax rates in the various jurisdictions where we operate. Our effective tax rate may fluctuate depending on a number of factors, including, but not limited to, the distribution of our profits or losses between the jurisdictions where we operate and changes to or differences in interpretation of tax laws. We are subject to reviews and audits by the U.S. Internal Revenue Services, or IRS, and other taxing authorities from time to time, and the IRS or other taxing authority may challenge our structure, transfer pricing arrangements and tax positions through an audit or lawsuit. Responding to or defending against challenges from taxing authorities could be expensive and consume time and other resources. If we are unsuccessful, we may be required to pay taxes for prior periods, interest, fines or penalties, and may be obligated to pay increased taxes in the future, any of which could require us to reduce our operating expenses, decrease efforts in support of our products or seek to raise additional funds. Any of these actions could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

The IRS may not agree with the conclusion that we should be treated as a foreign corporation for U.S. federal tax purposes.

Although we are incorporated in Ireland, the IRS may assert that we should be treated as a U.S. corporation (and, therefore, a U.S. tax resident) for U.S. federal tax purposes pursuant to Section 7874 of the U.S. Internal Revenue Code, or the Code. For U.S. federal tax purposes, a corporation generally is considered a tax resident in the jurisdiction of its organization or incorporation. Because we are an Irish incorporated entity, we would be classified as a foreign corporation (and, therefore, a non-U.S. tax resident) under these rules. Section 7874 of the Code provides an exception under which a foreign incorporated entity may, in certain circumstances, be treated as a U.S. corporation for U.S. federal tax purposes. Because we indirectly acquired all of Jazz Pharmaceuticals, Inc.'s assets through the acquisition of the shares of Jazz Pharmaceuticals, Inc. common stock when the businesses of Jazz Pharmaceuticals, Inc. and Azur Pharma Public Limited Company were combined in a merger transaction in January 2012, or the Azur Merger, the IRS could assert that we should be treated as a U.S. corporation for U.S. federal tax purposes under Section 7874. The IRS continues to scrutinize transactions that are potentially subject to Section 7874, and has issued several sets of final and temporary regulations under Section 7874 since 2012. We do not expect these regulations to affect the U.S. tax consequences of the Azur Merger. Nevertheless, new statutory and/or regulatory provisions under Section 7874 of the Code or otherwise could be enacted that adversely affect our status as a foreign corporation for U.S. federal tax purposes, and any such provisions could have prospective or retroactive application to us, our shareholders, Jazz Pharmaceuticals, Inc. and/or the Azur Merger.

Our U.S. affiliates' ability to use their net operating losses to offset potential taxable income and related income taxes that would otherwise be due is limited under Section 7874 of the Code and could be subject to further limitations if we do not generate taxable income in a timely manner or if the "ownership change" provisions of Sections 382 and 383 of the Code result in further annual limitations.

Following certain acquisitions of a U.S. corporation by a foreign corporation, Section 7874 of the Code can limit the ability of the acquired U.S. corporation and its U.S. affiliates to utilize U.S. tax attributes such as net operating losses, or NOLs, to offset U.S. taxable income resulting from certain transactions. Our U.S. affiliates have a significant amount of NOLs. As a result of Section 7874 of the Code, after the Azur Merger, our U.S. affiliates have not been able and will continue to be unable, for a period of time, to utilize their U.S. tax attributes to offset their U.S. taxable income, if any, resulting from certain taxable transactions. While we expect to be able to fully utilize our U.S. affiliates' U.S. NOLs prior to their expiration, as a result of this limitation, it may take our U.S. affiliates longer to use their NOLs.

Our ability to use these NOLs to offset potential future taxable income and related income taxes that would otherwise be due is also dependent upon our generation of future taxable income before the expiration dates of the NOLs, and we cannot predict with certainty when, or whether, our U.S. affiliates will generate sufficient taxable income to use all of the NOLs. In addition, the use of NOLs to offset potential future taxable income and related income taxes that would otherwise be due is subject to annual limitations under the "ownership change" provisions of Sections 382 and 383 of the Code and similar state provisions, which may result in the expiration of additional NOLs before future utilization.

Changes to tax laws relating to multinational corporations could adversely affect us.

The U.S. Congress, the EU, the Organization for Economic Co-operation and Development, or OECD, and other government agencies in jurisdictions where we and our affiliates do business have had an extended focus on issues related to the taxation of multinational corporations. One example is the OECD's initiative in the area of "base erosion and profit shifting," where payments are made between affiliates from a jurisdiction with high tax rates to a jurisdiction with lower tax rates. Many countries have begun to implement legislation and other guidance to align their international tax rules with the OECD's recommendation. As a result of the focus on the taxation of multinational corporations, the tax laws in Ireland, the U.S. and other countries in which we and our affiliates do business could change on a prospective or retroactive basis, and any such changes could adversely affect us.

On December 22, 2017, the U.S. Tax Cuts and Jobs Act, or U.S. Tax Act, was signed into law. The U.S. Tax Act made broad and complex changes to the U.S. tax code. The U.S. Department of Treasury has issued regulations and other interpretive guidance under the U.S. Tax Act, and is expected to issue additional guidance, the impact of which is uncertain but could adversely affect us. Furthermore, the impact of this tax reform on certain holders of our ordinary shares could be adverse. Among other things, changes to the rules for determining a foreign corporation's status as a controlled foreign corporation could have an adverse effect on U.S. persons who are treated as owning (directly or indirectly) at least 10% of the value or voting power of our ordinary shares. Investors should consult their own advisers regarding the potential application of these rules to their investments.

Further, the results of the recent U.S. presidential and Senate elections could lead to changes in U.S. tax laws, including an increase in the U.S. corporate income tax rate from that currently in effect under the U.S. Tax Act, which could adversely impact our tax provision, cash tax liability and effective tax rate.

A substantial portion of our indebtedness bears interest at variable interest rates based on USD LIBOR and certain of our financial contracts are also indexed to USD LIBOR. Changes in the method of determining LIBOR, or the replacement of LIBOR with an alternative reference rate, may adversely affect interest rates on our current or future indebtedness and may otherwise adversely affect our financial condition and results of operations.

In July 2017, the Financial Conduct Authority, the authority that regulates the London Inter-bank Offered Rate, or LIBOR, announced that it intended to stop compelling banks to submit rates for the calculation of LIBOR after 2021. We have certain financial contracts, including the amended credit agreement and our interest rate swaps, that are indexed to USD LIBOR. Changes in the method of determining LIBOR, or the replacement of LIBOR with an alternative reference rate, may adversely affect interest rates on our current or future indebtedness. Any transition process may involve, among other things, increased volatility or illiquidity in markets for instruments that rely on LIBOR, reductions in the value of certain instruments or the effectiveness of related transactions such as hedges, increased borrowing costs, uncertainty under applicable documentation, or difficult and costly consent processes. The transition away from LIBOR may result in increased expenses, may impair our ability to refinance our indebtedness or hedge our exposure to floating rate instruments, or may result in difficulties, complications or delays in connection with future financing efforts, any of which could adversely affect our financial condition and results of operations.

Risks Related to Our Ordinary Shares

The market price of our ordinary shares has been volatile and is likely to continue to be volatile in the future, and the value of your investment could decline significantly.

The stock market in general, including the market for life sciences companies, has experienced extreme price and trading volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies, including recently in connection with the evolving effects of the COVID-19 pandemic, which has resulted in decreased market prices, notwithstanding the lack of a fundamental change in the underlying business models of those companies. Worsening economic conditions and other adverse effects or developments relating to the evolving effects of the COVID-19 pandemic may negatively affect the market price of our ordinary shares, regardless of our actual operating performance. The market price for our ordinary shares is likely to continue to be volatile, particularly due to the evolving effects of the COVID-19 pandemic, and subject to significant price and volume fluctuations in response to market, industry and other factors, including the risk factors described in this "Risk Factors" section.

Our share price may be dependent upon the valuations and recommendations of the analysts who cover our business. If our results do not meet these analysts' forecasts, the expectations of our investors or the financial guidance we provide to investors in any period, the market price of our ordinary shares could decline. Our ability to meet analysts' forecasts, investors' expectations and our financial guidance is substantially dependent on our ability to maintain or increase sales of our marketed products.

In addition, the market price of our ordinary shares may decline if the effects of our strategic transactions on our financial or operating results are not consistent with the expectations of financial analysts or investors. The market price of our ordinary shares could also be affected by possible sales of our ordinary shares by holders of our exchangeable senior notes who may view our exchangeable senior notes as a more attractive means of equity participation in our company and by hedging or arbitrage trading activity involving our ordinary shares by the holders of our exchangeable senior notes.

We are subject to Irish law, which differs from the laws in effect in the U.S. and may afford less protection to holders of our securities.

It may not be possible to enforce court judgments obtained in the U.S. against us in Ireland based on the civil liability provisions of the U.S. federal or state securities laws. In addition, there is some uncertainty as to whether the courts of Ireland would recognize or enforce judgments of U.S. courts obtained against us or our directors or officers based on the civil liability provisions of the U.S. federal or state securities laws or hear actions against us or those persons based on those laws. We have been advised that the U.S. currently does not have a treaty with Ireland providing for the reciprocal recognition and enforcement of judgments in civil and commercial matters. Therefore, a final judgment for the payment of money rendered by any U.S. federal or state court based on civil liability, whether or not based solely on U.S. federal or state securities laws, would not automatically be enforceable in Ireland.

As an Irish company, we are governed by the Irish Companies Act 2014, which differs in some material respects from laws generally applicable to U.S. corporations and shareholders, including, among others, differences relating to interested director and officer transactions, mergers, amalgamations and acquisitions, takeovers and shareholder lawsuits. The duties of directors and officers of an Irish company are generally owed to the company only. Shareholders of Irish companies generally do not have a personal right of action against directors or officers of the company and may exercise such rights of action on behalf of the company only in limited circumstances. Accordingly, holders of our securities may have more difficulty protecting their interests than would holders of securities of a corporation incorporated in a U.S. jurisdiction.

Our articles of association, Irish law and the indentures governing our exchangeable senior notes contain provisions that could delay or prevent a takeover of us by a third party.

Our articles of association could delay, defer or prevent a third party from acquiring us, despite the possible benefit to our shareholders, or otherwise adversely affect the price of our ordinary shares. In addition to our articles of association, several mandatory provisions of Irish law could prevent or delay an acquisition of us. We are also subject to various provisions of Irish law relating to mandatory bids, voluntary bids, requirements to make a cash offer and minimum price requirements, as well as substantial acquisition rules and rules requiring the disclosure of interests in our shares in certain circumstances. Furthermore, the indentures governing our exchangeable senior notes require us to repurchase our exchangeable senior notes for cash if we undergo certain fundamental changes and, in certain circumstances, to increase the exchange rate for a holder of our exchangeable senior notes. A takeover of us may trigger the requirement that we purchase our exchangeable senior notes and/or increase the exchange rate, which could make it more costly for a potential acquirer to engage in a business combination transaction with us.

These provisions, whether alone or together, may discourage potential takeover attempts, discourage bids for our ordinary shares at a premium over the market price or adversely affect the market price of, and the voting and other rights of the holders of, our ordinary shares. These provisions, whether alone or together, could also discourage proxy contests and make it more difficult for our shareholders to elect directors other than the candidates nominated by our board.

Future sales and issuances of our ordinary shares, securities convertible into our ordinary shares or rights to purchase ordinary shares or convertible securities could result in additional dilution of the percentage ownership of our shareholders and could cause our share price to decline.

We expect to continue to opportunistically seek access to additional capital to license or acquire additional products, product candidates or companies to expand our operations or for general corporate purposes. To the extent we raise additional capital by issuing equity securities or securities convertible into or exchangeable for ordinary shares, our shareholders may experience substantial dilution. We may sell ordinary shares, and we may sell convertible or exchangeable securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. If we sell such ordinary shares, convertible or exchangeable securities or other equity securities in subsequent transactions, existing shareholders may be materially diluted.

We have never declared or paid dividends on our capital stock and we do not anticipate paying dividends in the foreseeable future.

We do not currently plan to pay cash dividends in the foreseeable future. Any future determination as to the payment of dividends will, subject to Irish legal requirements, be at the sole discretion of our board of directors and will depend on our financial condition, results of operations, capital requirements, compliance with the terms of the amended credit agreement and other factors our board of directors deems relevant. Accordingly, holders of our ordinary shares must rely on increases in the trading price of their shares for returns on their investment in the foreseeable future. In addition, in the event that we pay a dividend on our ordinary shares, in certain circumstances, as an Irish tax resident company, some shareholders may be subject to withholding tax, which could adversely affect the price of our ordinary shares.

General Risk Factors

Our business and operations could be negatively affected if we become subject to shareholder activism or hostile bids, which could cause us to incur significant expense, hinder execution of our business strategy and impact our stock price.

Shareholder activism, which takes many forms and arises in a variety of situations, has been increasingly prevalent. Recent stock price declines due to the evolving effects of the COVID-19 may also increase our vulnerability to unsolicited approaches. If we become the subject of certain forms of shareholder activism, such as proxy contests or hostile bids, the attention of our management and our board of directors may be diverted from execution of our strategy. Such shareholder activism could give rise to perceived uncertainties as to our future strategy, adversely affect our relationships with business partners and make it more difficult to attract and retain qualified personnel. Also, we may incur substantial costs, including significant legal fees and other expenses, related to activist shareholder matters. Our stock price could be subject to significant fluctuation or otherwise be adversely affected by the events, risks and uncertainties of any shareholder activism.

If we fail to attract, retain and motivate key personnel or to retain the members of our executive management team, our operations and our future growth may be adversely affected.

Our success and our ability to grow depend in part on our continued ability to attract, retain and motivate highly qualified personnel, including our executive management team. We do not carry "key person" insurance. The loss of services and institutional knowledge of one or more additional members of our executive management team or other key personnel could delay or prevent the successful completion of some of our vital activities and may negatively impact our operations and future growth. In addition, changes in our organization as a result of executive management transition may have a disruptive impact on our ability to implement our strategy. Until we integrate new personnel, and unless they are able to succeed in their positions, we may be unable to successfully manage and grow our business. In any event, if we are unable to attract, retain and motivate quality individuals, or if there are delays, or if we do not successfully manage personnel and executive management transitions, our business, financial condition, results of operations and growth prospects could be adversely affected.

Item 1B. Unresolved Staff Comments

There are no material unresolved written comments that were received from the SEC staff 180 days or more before the end of our 2020 fiscal year relating to our periodic or current reports under the Securities Exchange Act of 1934, as amended.

Item 2. Properties

Our corporate headquarters are located in Dublin, Ireland, and our U.S. operations are located in Palo Alto, California and Philadelphia, Pennsylvania.

We lease approximately 45,000 square feet of office space in Dublin, Ireland. This lease expires in December 2036, with an option to terminate in December 2024 with no less than one year's prior written notice and the payment of a termination fee, and a further option to terminate in December 2031 with no less than one year's prior written notice.

We own approximately 58,000 square foot of manufacturing and development facility in Athlone, Ireland, which is primarily used for the manufacture of Xyrem, Xywav and development-stage products.

In Palo Alto, California, we occupy a total of approximately 198,000 square feet of office space, 99,000 square feet of which is under a lease that expires in October 2029 and has an option to terminate in October 2027 with no less than one year's prior written notice and the payment of a termination fee. The remaining 99,000 square feet is under a lease that expires in July 2031 and an option to terminate in October 2029 with no less than one year's prior written notice and the payment of a termination fee. We have an option to extend the terms of both leases twice for a period of five years each.

We occupy approximately 60,000 square feet of office space in Philadelphia, Pennsylvania under a lease that expires in April 2029 with an option to terminate in December 2025 with no less than one year's prior written notice and the payment of a termination fee.

We occupy approximately 26,000 square feet of office space in Oxford, United Kingdom under a lease that expires in April 2028 with an option to terminate in April 2025 with six months written notice.

We own a manufacturing facility in Villa Guardia (Como), Italy, which is primarily used for the manufacture of Defitelio. The manufacturing facility is approximately 45,000 square feet. We also lease approximately 34,000 square feet of office and laboratory space in Villa Guardia (Como), Italy under a lease that expires in December 2023. In addition, we have offices in Canada, France and elsewhere in Europe.

We believe that our existing properties are in good condition and suitable for the conduct of our business. As we continue to expand our operations, we may need to lease additional or alternative facilities.

Item 3. Legal Proceedings

The information required to be set forth under this Item 3 is incorporated by reference to Note 13, Commitments and Contingencies—Legal Proceedings of the Notes to Consolidated Financial Statements included in Part IV of this Annual Report on Form 10-K.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

Our ordinary shares trade on The Nasdaq Global Select Market under the trading symbol "JAZZ."

Holders of Ordinary Shares

As of February 16, 2021, there were three holders of record of our ordinary shares. Because almost all of our ordinary shares are held by brokers, nominees and other institutions on behalf of shareholders, we are unable to estimate the total number of shareholders represented by these record holders.

Dividends

In 2020 and 2019, we did not declare or pay cash dividends on our common equity. Under Irish law, dividends may only be paid, and share repurchases and redemptions must generally be funded only out of, "distributable reserves." In addition, the terms of our credit agreement restrict our ability to make certain restricted payments, including dividends and other distributions by us in respect of our ordinary shares, subject to, among other exceptions, (1) a general exception for dividends and restricted payments up to $30 million in the aggregate and (2) an exception that allows for restricted payments, subject to a cap equal to the sum of (i) $100 million plus (ii) so long as our secured leverage ratio (as defined in our credit agreement) does not exceed 3:1 after giving pro forma effect to the restricted payment, a formula-based amount tied to our consolidated net income; provided that such cap applies only if our total leverage ratio (as defined in our credit agreement) exceeds 2:1 after giving pro forma effect to the restricted payment. Any future determination as to the payment of dividends will, subject to Irish legal requirements, be at the sole discretion of our board of directors and will depend on our consolidated financial condition, results of operations, capital requirements, compliance with the terms our credit agreement or other future borrowing arrangements, and other factors our board of directors deems relevant.

Unregistered Sales of Equity Securities

Except as previously reported in our Quarterly Reports on Form 10-Q and Current Reports on Form 8-K filed with the Securities and Exchange Commission, or SEC, during the year ended December 31, 2020, there were no unregistered sales of equity securities by us during the year ended December 31, 2020.

Irish Law Matters

As we are an Irish incorporated company, the following matters of Irish law are relevant to the holders of our ordinary shares.

Irish Restrictions on Import and Export of Capital

Except as indicated below, there are no restrictions on non-residents of Ireland dealing in Irish domestic securities, which includes ordinary shares of Irish companies. Dividends and redemption proceeds also continue to be freely transferable to non-resident holders of such securities. The Financial Transfers Act, 1992 gives power to the Minister for Finance of Ireland to restrict financial transfers between Ireland and other countries and persons. Financial transfers are broadly defined and include all transfers that would be movements of capital or payments within the meaning of the treaties governing the member states of the European Union. The acquisition or disposal of interests in shares issued by an Irish incorporated company and associated payments falls within this definition. In addition, dividends or payments on redemption or purchase of shares and payments on a liquidation of an Irish incorporated company would fall within this definition. At present the Financial Transfers Act, 1992 prohibits financial transfers involving the late Slobodan Milosevic and associated persons, Belarus, certain persons indicted by the International Criminal Tribunal for the former Yugoslavia, the late Osama bin Laden, Al-Qaida, the Taliban of Afghanistan, Democratic Republic of Congo, Democratic People's Republic of Korea (North Korea), Iran, Iraq, Côte d'Ivoire, Lebanon, Liberia, Zimbabwe, Sudan, Somalia, Republic of Guinea, Republic of Guinea-Bissau, Afghanistan, Egypt, Libya, Syria, Tunisia, certain known terrorists and terrorist groups, countries that harbor certain terrorist groups and Ukraine without the prior permission of the Central Bank of Ireland.

Any transfer of, or payment in respect of, a share or interest in a share involving the government of any country that is currently the subject of United Nations sanctions, any person or body controlled by any of the foregoing, or by any person acting on behalf of the foregoing, may be subject to restrictions pursuant to such sanctions as implemented into Irish law.

Irish Taxes Applicable to U.S. Holders

Irish Tax on Dividends. While we have no current plans to pay dividends, dividends on our ordinary shares would generally be subject to Irish Dividend Withholding Tax at the standard rate (currently 25%), unless an exemption applies.

Irish Tax on Capital Gains. A shareholder who is neither resident nor ordinarily resident in Ireland and does not hold our ordinary shares in connection with a trade or business carried on by such shareholder in Ireland through a branch or agency should not be subject to Irish tax on capital gains on a disposal of our ordinary shares.

Capital Acquisitions Tax. Irish capital acquisitions tax, or CAT, is comprised principally of gift tax and inheritance tax. CAT could apply to a gift or inheritance of our ordinary shares irrespective of the place of residence, ordinary residence or domicile of the parties. This is because our ordinary shares are regarded as property situated in Ireland as our share register must be held in Ireland. The person who receives the gift or inheritance has primary liability for CAT.

CAT is levied at a rate of 33% above certain tax-free thresholds. The appropriate tax-free threshold is dependent upon (i) the relationship between the donor and the donee and (ii) the aggregation of the values of previous gifts and inheritances received by the donee from persons within the same category of relationship for CAT purposes. Gifts and inheritances passing between spouses are exempt from CAT. Our shareholders should consult their own tax advisers as to any tax consequences of holding our ordinary shares, including whether CAT is creditable or deductible in computing any domestic tax liabilities.

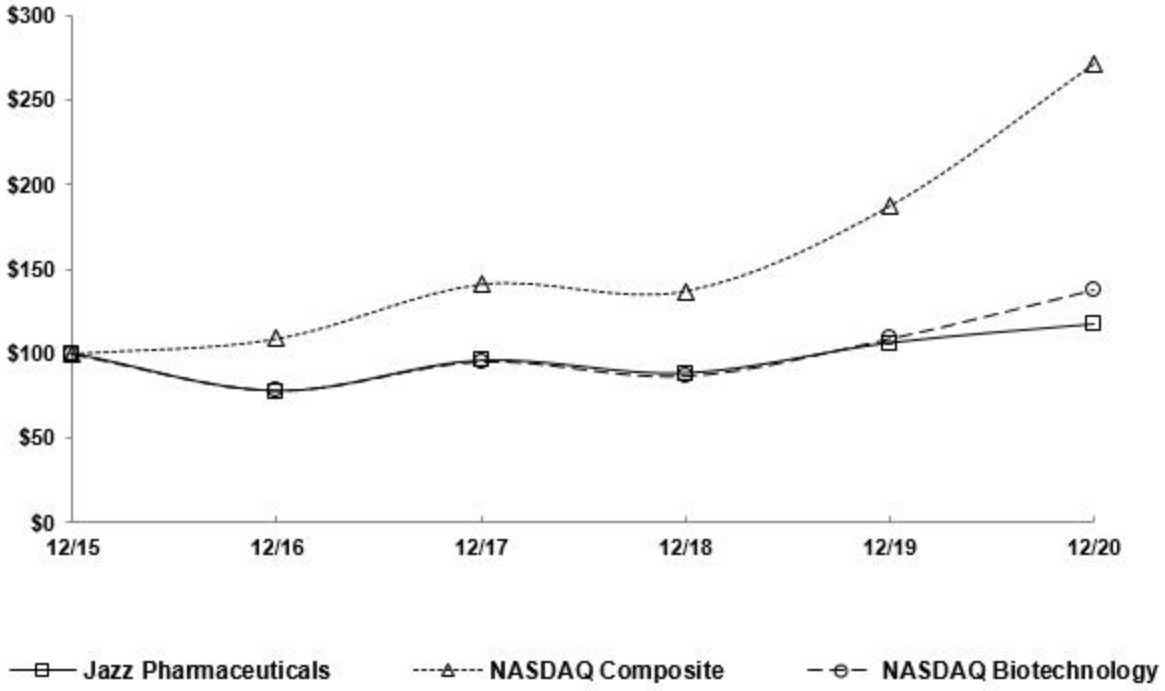
Stamp Duty. Irish stamp duty (if any) may become payable in respect of ordinary share transfers. However, a transfer of our ordinary shares from a seller who holds shares through Depository Trust Company, or DTC, to a buyer who holds the acquired shares through DTC will not be subject to Irish stamp duty. A transfer of our ordinary shares (i) by a seller who holds ordinary shares outside of DTC to any buyer or (ii) by a seller who holds the ordinary shares through DTC to a buyer who holds the acquired ordinary shares outside of DTC, may be subject to Irish stamp duty (currently at the rate of 1% of the price paid or the market value of the ordinary shares acquired, if greater). The person accountable for payment of stamp duty is the buyer or, in the case of a transfer by way of a gift or for less than market value, all parties to the transfer.

A shareholder who holds ordinary shares outside of DTC may transfer those ordinary shares into DTC without giving rise to Irish stamp duty provided that the shareholder would be the beneficial owner of the related book-entry interest in those ordinary shares recorded in the systems of DTC (and in exactly the same proportions) as a result of the transfer and at the time of the transfer into DTC there is no sale of those book-entry interests to a third party being contemplated by the shareholder. Similarly, a shareholder who holds ordinary shares through DTC may transfer those ordinary shares out of DTC without giving rise to Irish stamp duty provided that the shareholder would be the beneficial owner of the ordinary shares (and in exactly the same proportions) as a result of the transfer, and at the time of the transfer out of DTC there is no sale of those ordinary shares to a third party being contemplated by the shareholder. In order for the share registrar to be satisfied as to the application of this Irish stamp duty treatment where relevant, the shareholder must confirm to us that the shareholder would be the beneficial owner of the related book-entry interest in those ordinary shares recorded in the systems of DTC (and in exactly the same proportions) (or vice-versa) as a result of the transfer and there is no agreement being contemplated for the sale of the related book-entry interest or the ordinary shares or an interest in the ordinary shares, as the case may be, by the shareholder to a third party.

Performance Measurement Comparison (1)

The following graph shows the total shareholder return on the last day of each year of an investment of $100 in cash as if made on December 31, 2015 in (i) our ordinary shares; (ii) the Nasdaq Composite Index; and (iii) the Nasdaq Biotechnology Index through December 31, 2020. The shareholder return shown in the graph below is not necessarily indicative of future performance, and we do not make or endorse any predictions as to future shareholder returns.

COMPARISON OF FIVE YEAR CUMULATIVE TOTAL RETURN (2)



(1) This section is not "soliciting material," is not deemed "filed" with the SEC and is not to be incorporated by reference into any of our filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, or Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

(2) Information used in the graph was obtained from Research Data Group, Inc.

Issuer Purchases of Equity Securities

In November 2016, our board of directors authorized a share repurchase program and as of December 31, 2020 had authorized the repurchase of ordinary shares having an aggregate purchase price of up to $1.5 billion, exclusive of any brokerage commissions. Under this program, which has no expiration date, we may repurchase ordinary shares from time to time on the open market. During the three months ended December 31, 2020, we did not repurchase any of our ordinary shares. In 2020, we spent a total of $146.5 million to purchase 1.2 million of our ordinary shares under the share repurchase program at an average total purchase price, including commissions, of $121.98 per share. All ordinary shares repurchased were canceled. As of December 31, 2020, the remaining amount authorized under the share repurchase program was $431.2 million.

Item 6. Selected Financial Data

The following selected consolidated financial data should be read together with our consolidated financial statements and accompanying notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations" appearing elsewhere in this Annual Report on Form 10-K. The selected consolidated financial data in this section is not intended to replace our consolidated financial statements and the accompanying notes. Our historical results are not necessarily indicative of our future results.

We derived the consolidated statements of income data for the years ended December 31, 2020, 2019 and 2018 and the selected consolidated balance sheet data as of December 31, 2020 and 2019 from the audited consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K. The consolidated statements of income data for the years ended December 31, 2017 and 2016, and the selected consolidated balance sheet data as of December 31, 2018, 2017 and 2016 are derived from audited consolidated financial statements not included in this Annual Report on Form 10-K.

	Year Ended December 31,				
	2020	2019	2018	2017	2016(1)
	(In thousands, except per share amounts)				
Consolidated Statements of Income Data:					
Revenues:					
Product sales, net	$ 2,346,660	$ 2,135,601	$ 1,869,473	$ 1,601,399	$ 1,477,261
Royalties and contract revenues	16,907	26,160	21,449	17,294	10,712
Total revenues	2,363,567	2,161,761	1,890,922	1,618,693	1,487,973
Operating expenses:					
Cost of product sales (excluding amortization of acquired developed technologies)	148,917	127,930	121,544	110,188	105,386
Selling, general and administrative	854,233	736,942	683,530	544,156	502,892
Research and development	335,375	299,726	226,616	198,442	162,297
Intangible asset amortization	259,580	354,814	201,498	152,065	101,994
Impairment charges	136,139	—	42,896	—	—
Acquired in-process research and development	251,250	109,975	—	85,000	23,750
Total operating expenses	1,985,494	1,629,387	1,276,084	1,089,851	896,319
Income from operations	378,073	532,374	614,838	528,842	591,654
Interest expense, net	(99,707)	(72,261)	(78,500)	(77,756)	(62,580)
Foreign exchange gain (loss)	(3,271)	(5,811)	(6,875)	(9,969)	3,372
Income before income tax provision (benefit) and equity in loss of investees	275,095	454,302	529,463	441,117	532,446
Income tax provision (benefit)	33,517	(73,154)	80,162	(47,740)	135,236
Equity in loss of investees	2,962	4,089	2,203	1,009	379
Net income	$ 238,616	$ 523,367	$ 447,098	$ 487,848	$ 396,831
Net income per ordinary share:					
Basic	$ 4.28	$ 9.22	$ 7.45	$ 8.13	$ 6.56
Diluted	$ 4.22	$ 9.09	$ 7.30	$ 7.96	$ 6.41
Weighted-average ordinary shares used in per share calculations - basic	55,712	56,749	59,976	60,018	60,500
Weighted-average ordinary shares used in per share calculations - diluted	56,517	57,550	61,221	61,317	61,870

	As of December 31,				
	2020	2019	2018	2017	2016(1)
	(In thousands)				
Consolidated Balance Sheet Data:					
Cash, cash equivalents and investments	$ 2,132,769	$ 1,077,344	$ 824,622	$ 601,035	$ 425,963
Working capital	2,185,823	1,265,778	888,518	674,330	490,663
Total assets	6,535,901	5,538,897	5,203,491	5,123,672	4,800,227
Long-term debt, current and non-current	2,094,838	1,607,257	1,596,412	1,581,038	2,029,625
Retained earnings	1,159,894	1,067,815	841,050	917,956	528,907
Total Jazz Pharmaceuticals plc shareholders' equity	3,659,745	3,110,981	2,757,422	2,713,097	1,877,339

(1) On July 12, 2016, we completed the acquisition of Celator Pharmaceuticals, Inc., or Celator, which acquisition we refer to in this report as the Celator Acquisition, for an aggregate cash consideration of $1.5 billion and the results of operations of the acquired Celator business, along with the estimated fair values of the assets acquired and liabilities assumed, have been included in our consolidated financial statements since the closing of the Celator Acquisition.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion of our financial condition and results of operations should be read in conjunction with the consolidated financial statements and notes to consolidated financial statements included elsewhere in this Annual Report on Form 10-K. This discussion contains forward-looking statements that involve risks and uncertainties. When reviewing the discussion below, you should keep in mind the substantial risks and uncertainties that impact our business. In particular, we encourage you to review the risks and uncertainties described in "Risk Factors" in Part I, Item 1A in this Annual Report on Form 10-K. These risks and uncertainties could cause actual results to differ materially from those projected in forward-looking statements contained in this report or implied by past results and trends.

Overview

Jazz Pharmaceuticals plc is an innovative global biopharmaceutical company dedicated to developing and commercializing life-changing medicines that transform the lives of patients with serious diseases – often with limited or no options. We have a diverse portfolio of marketed medicines and novel product candidates, in early- to late-stage development, across key therapeutic areas. Our focus is in neuroscience, including sleep and movement disorders, and in oncology, including hematologic malignancies and solid tumors. We actively explore new options for patients including novel compounds, small molecule advancements, biologics and innovative delivery technologies.

Our lead marketed products are:

- **Xyrem® (sodium oxybate) oral solution**, a product approved by the U.S. Food and Drug Administration, or FDA, and marketed in the U.S. for the treatment of both cataplexy and excessive daytime sleepiness, or EDS, in narcolepsy patients seven years of age and older;
- **Xywav™ (calcium, magnesium, potassium, and sodium oxybates) oral solution**, a product that contains 92% less sodium than Xyrem, approved by FDA and launched in the U.S. in November 2020 for the treatment of cataplexy or EDS in narcolepsy patients seven years of age and older;
- **Sunosi® (solriamfetol)**, a product approved by FDA and the European Commission and marketed in the U.S. and in Europe to improve wakefulness in adult patients with EDS associated with narcolepsy or obstructive sleep apnea, or OSA;
- **Defitelio® (defibrotide sodium)**, a product approved in the U.S. for the treatment of adult and pediatric patients with hepatic veno-occlusive disease, or VOD, also known as sinusoidal obstruction syndrome, with renal or pulmonary dysfunction following hematopoietic stem cell transplantation, or HSCT, and in Europe (where it is marketed as Defitelio® (defibrotide)) for the treatment of severe VOD in adults and children undergoing HSCT therapy;
- **Erwinaze® (asparaginase *Erwinia chrysanthemi*)**, a product approved in the U.S. and in certain markets in Europe (where it is marketed as Erwinase®) for patients with acute lymphoblastic leukemia, or ALL, who have developed hypersensitivity to *E. coli*-derived asparaginase;
- **Vyxeos® (daunorubicin and cytarabine) liposome for injection**, a product approved in the U.S. and in Europe (where it is marketed as Vyxeos® liposomal 44 mg/100 mg powder for concentrate for solution for infusion) for the treatment of adults with newly-diagnosed therapy-related acute myeloid leukemia, or AML, or AML with myelodysplasia-related changes; and
- **Zepzelca™ (lurbinectedin)**, a product approved by FDA and launched in July 2020 in the U.S. for the treatment of adult patients with metastatic small cell lung cancer, or SCLC, with disease progression on or after platinum-based chemotherapy.

Our strategy to create sustainable shareholder value is focused on:

- Strong commercial execution to drive diversified revenue growth and address unmet medical needs of our patients across our product portfolio including with rapid adoption of Xywav in the U.S., Sunosi growth globally and establishing Zepzelca as a treatment of choice for second line SCLC patients;
- Expanding and advancing our pipeline with internal and external patient-centric innovation to achieve a valuable product portfolio of durable, highly differentiated programs;
- Continuing to build a flexible, efficient, and productive development engine for targeted therapeutic conditions to identify and progress early- and mid-stage assets; and
- Investing in an efficient, scalable operating model and differentiated capabilities to enable growth and unlock further value through indication expansion and global markets.

In 2020, consistent with our strategy, we continued to focus on research and development activities within our neuroscience and oncology therapeutic areas, such as our expansion into movement disorders and solid tumors, and exploring and investing in adjacent therapeutic areas that could further diversify our portfolio, such as post-traumatic stress disorders through our acquisition of SpringWorks Therapeutics, Inc.'s, or SpringWorks', fatty acid amide hydrolase, or FAAH, inhibitor program. For a summary of our ongoing research and development activities, see "Business—Research and Development" in this Part I, Item 1.

Our development activities encompass all stages of development and currently include clinical testing of new product candidates and activities related to clinical improvements of, or additional indications or new clinical data for, our existing marketed products. We have also expanded into preclinical exploration of novel therapies, including precision medicines in hematology and oncology. We are increasingly leveraging our growing internal research and development function, and we have also entered into collaborations with third parties for the research and development of innovative early-stage product candidates and have supported additional investigator-sponsored trials that will generate additional data related to our products. We also seek out investment opportunities in support of development of early- and mid-stage technologies in our therapeutic areas and adjacencies. We have a number of licensing and collaboration agreements with third parties, including biotechnology companies, academic institutions and research-based companies and institutions, related to preclinical and clinical research and development activities in hematology and in precision oncology, as well as in neuroscience. A summary of our ongoing development activities is provided under "Business—Research and Development" in Part I, Item 1 of this Annual Report on Form 10-K. For 2021 and beyond, we expect that our research and development expenses will continue to increase from previous levels, particularly as we prepare for anticipated regulatory submissions and data read-outs from clinical trials, initiate and undertake additional clinical trials and related development work and potentially acquire rights to additional product candidates.

2020 Highlights and Recent Developments

Regulatory Approvals and Launches

- In January 2020, the European Commission approved Sunosi to improve wakefulness in adult patients with EDS associated with narcolepsy or OSA. In May and October 2020, we launched Sunosi in Germany and Denmark, respectively.
- In February 2020, FDA accepted for filing with priority review the new drug application, or NDA, for Zepzelca for the treatment of relapsed SCLC, a product candidate for which we recently acquired exclusive U.S. development and commercialization rights, with a Prescription Drug User Fee Act, or PDUFA, action date of August 16, 2020. In June 2020, FDA granted Zepzelca accelerated approval for the treatment of adult patients with metastatic SCLC with disease progression on or after platinum-based chemotherapy, a product for which we have exclusive U.S. commercialization rights. In July 2020, we launched Zepzelca in the U.S. and the National Comprehensive Cancer Network added Zepzelca to the clinical practice guidelines in oncology for SCLC as a preferred treatment in patients who relapse in six months or less after prior systemic therapy and as a recommended regimen in patients who relapse more than six months after prior systemic therapy. At launch, all planned contracts with distributors and group purchasing organizations were in place for Zepzelca.
- In January 2020, we submitted an NDA to FDA seeking marketing approval for Xywav (formerly JZP-258), an oxybate product candidate that contains 92% less sodium than Xyrem, for the treatment of cataplexy and EDS in narcolepsy patients seven years of age and older. In March 2020, FDA accepted our NDA for filing with priority review with a PDUFA action date of July 21, 2020. In July 2020, FDA approved our NDA for Xywav. In November 2020, we commenced the U.S. launch of Xywav. The 92% reduction of sodium translates into a reduction of approximately 1,000 to 1,500 milligrams per day for a patient prescribed an oxybate product, depending on the dose. When patients start Xywav after sodium oxybate, Xywav treatment is initiated at the same dose and regimen as sodium oxybate (gram for gram) and titrated as needed based on efficacy and tolerability. The label for Xywav, unlike Xyrem, does not include a warning to prescribers to monitor patients sensitive to sodium intake, including patients with heart failure, hypertension or renal impairment. There is a well-accepted relationship between dietary sodium and blood pressure as well as published hypertension guidelines underscoring that excessive consumption of sodium is independently associated with an increased risk of stroke, cardiovascular disease and other adverse outcomes. In approving Xywav, FDA approved a risk evaluation and mitigation strategy, or REMS, for Xywav and Xyrem. In an effort to support strong adoption of Xywav, we are focused on providing robust patient access programs and facilitating payor coverage for Xywav.
- In July 2020, Defitelio was approved by the Australian Therapeutic Goods Administration for the treatment of VOD.

Regulatory Submissions

- In October 2020, we announced positive top-line results from a Phase 3 clinical trial evaluating JZP-258 in adult patients with idiopathic hypersomnia, a chronic, neurological disorder that is primarily characterized by EDS and that currently has no approved therapies in the U.S. We completed the rolling submission of a supplemental new drug application in February 2021 and if approved by FDA in a timely manner, we expect a potential launch of JZP-258 w in the fourth quarter of 2021. FDA granted Fast Track designation for JZP-258 for the treatment of idiopathic hypersomnia in September 2020.

Research & Development

- In April 2020, we announced our decision to stop enrollment in our Phase 3 clinical study of defibrotide due to a determination that the study is highly unlikely to reach one of its primary endpoints, the prevention of VOD. This does not impact the approved indication or other ongoing defibrotide studies.
- In September 2020, FDA granted Rare Pediatric Disease designation for JZP-458 for the treatment of pediatric ALL, and prior to that, in October 2019, FDA granted Fast Track designation for JZP-458, a recombinant *Erwinia* asparaginase product candidate, for the treatment of pediatric and adult patients with ALL or lymphoblastic lymphoma who are hypersensitive to *E. coli*-derived asparaginase products. Our pivotal Phase 2/3 clinical study (conducted in collaboration with the Children's Oncology Group) for JZP-458 continues to enroll, and we initiated the submission of our biologics license application, or BLA, to FDA for JZP-458 in December 2020, with an objective of launching in the U.S. in mid-2021 to ensure that ALL patients have access to a reliable, high-quality recombinant product given the ongoing supply issues with Erwinaze.
- In September 2020, we completed our healthy volunteer study in JZP-385 for the potential treatment of essential tremor.

Other Significant Developments

- During 2020, we repurchased an aggregate of $146.5 million of our ordinary shares under our share repurchase program at an average price of $121.98 per share.
- In June 2020, Jazz Investments I Limited, our wholly owned subsidiary, completed a private offering of an aggregate $1.0 billion principal amount of 2.00% exchangeable senior notes due 2026, or the 2026 Notes. We used a portion of the net proceeds from the issuance of the 2026 Notes to repurchase for cash $356.2 million aggregate principal amount of existing 1.875% exchangeable senior notes due 2021, or the 2021 Notes. The remaining net proceeds were used for general corporate purposes.
- In September 2020, we entered into a new research collaboration agreement with Redx Pharma plc, or Redx, to discover and develop drug candidates for two cancer targets in the Ras/Raf/MAP kinase pathway. This research collaboration follows our previously announced purchase of Redx's preclinical pan-Raf inhibitor program for the potential treatment of Raf and Ras mutant tumors in July 2019. Under the terms of the 2020 research collaboration agreement, we made an upfront payment to Redx of $10.0 million, which will be followed by another $10.0 million in 2021, provided research work is continuing. Following delivery of an investigational new drug, or IND,-ready molecule, Redx will be eligible to receive up to a further $200.0 million from us in development, regulatory and commercial milestone payments for each program. The first milestone is payable upon successful IND submission. In addition, Redx is eligible to receive tiered royalties in mid-single digit percentages of any future net sales. Following a successful submission of an IND application, we will be responsible for further development, manufacturing, regulatory activities and commercialization.
- In October 2020, we entered into an asset purchase and exclusive license agreement with SpringWorks under which we acquired SpringWorks' FAAH inhibitor program. Under the terms of the agreement, SpringWorks has assigned or exclusively licensed all assets relating to its FAAH inhibitor program to us, including assignment of SpringWorks' proprietary FAAH inhibitor PF-04457845, or PF-'845, now named JZP-150, and its license agreement with Pfizer, Inc., or Pfizer, under which Pfizer exclusively licensed PF-'845 to SpringWorks in 2017. We will initially focus on developing JZP-150 for the potential treatment of post-traumatic stress disorder and associated symptoms. In addition to assuming all milestone and royalty obligations owed by SpringWorks to Pfizer, we made an upfront payment of $35.0 million to SpringWorks, which was recorded as acquired in-process research and development, or IPR&D expense in our consolidated statement of income for the year ended December 31, 2020, and may make potential milestone payments to SpringWorks of up to $375.0 million upon the achievement of certain clinical, regulatory and commercial milestones, and pay incremental tiered royalties to SpringWorks on future net sales of JZP-150 in the mid- to high-single digit percentages.

- In October 2020, we entered into an amendment and restatement of our license agreement, or the amended license agreement, with PharmaMar, S.A., or PharmaMar, which expanded our exclusive license to include rights to develop and commercialize Zepzelca in Canada.
- In February 2021, we entered into a definitive transaction agreement, or the Transaction Agreement, with GW Pharmaceuticals plc, or GW. The GW Transaction Agreement provides, among other things, that, subject to the satisfaction or waiver of the conditions set forth in the GW Transaction Agreement, we will acquire the entire issued share capital of GW. Under the GW Transaction Agreement, the consideration to be paid by us in the GW Acquisition consists of $220.00 per American Depositary Share in GW, to be paid in the form of $200 in cash and $20 in our ordinary shares, for total consideration of approximately $7.2 billion. The GW Acquisition is expected to close in the second quarter of 2021, subject to the satisfaction or waiver of the conditions set forth in the GW Transaction Agreement, including applicable regulatory approvals and the approval of GW shareholders. On February 3, 2021, in connection with the execution of the GW Transaction Agreement, we entered into a commitment letter with BofA Securities, Inc., Bank of America, N.A. and JPMorgan Chase Bank, N.A. pursuant to which these commitment parties have committed to provide us with a senior secured revolving credit facility in an aggregate principal amount of up to $500.0 million, a senior secured term loan B facility in an aggregate principal amount of up to $3,150.0 million and a senior secured bridge loan facility in an aggregate principal amount of up to $2,200.0 million to, among other things, finance our obligations in respect of the GW Acquisition. The effectiveness of such credit facilities is subject to the occurrence of customary closing conditions, including the consummation of the GW Acquisition. We expect that product sales, operating expenses and interest expense, will be higher in 2021 than in 2020 due to the continued growth of the organization and, upon closing, the impact of the inclusion of the results of operations from GW and the higher debt balance.

Operational Excellence

In addition, we remain focused on continuing to build excellence in areas that we believe will give us a competitive advantage, including building an increasingly agile and adaptable commercialization engine and strengthening our customer-focused market expertise across patients, providers and payors. We are refining our approach to engaging our customers by strengthening alignment and integration across functions and across regions. This includes a more integrated approach to brand planning, a heightened focus on launch and operational excellence and multichannel customer engagement. We have fully adapted to virtual scientific congresses designed to ensure we can continue to provide promotional and non-promotional interactions and have supported our field-based teams with virtual customer interaction tools, training and content. These initiatives mark a significant operational evolution that is directly linked to our corporate strategy and are designed to better enable our teams to work collaboratively on an aligned and shared agenda. We are leveraging our differentiated operational capabilities this year in achieving three product approvals and executing our ongoing launches.

COVID-19 Business Update

With the global impact of the COVID-19 pandemic, we have developed a comprehensive response strategy including establishing cross-functional response teams and implementing business continuity plans to manage the impact of the COVID-19 pandemic on our employees, patients and our business. Since the second quarter of 2020, we have been experiencing financial and other impacts of the pandemic, and given the global economic slowdown, the overall disruption of global healthcare systems and the other risks and uncertainties associated with the pandemic, we expect that our business, financial condition, results of operations and growth prospects will continue to be adversely affected in future quarters.

We support broad public health strategies designed to prevent the spread of COVID-19 and are focused on the health and welfare of our employees. In accordance with guidance issued by the Centers for Disease Control and Prevention, the World Health Organization and local authorities, in March 2020, our global workforce, including field-based teams, transitioned to working remotely. Our global organization has mobilized to enable our employees to accomplish our most critical goals in new ways, leveraging positivity, innovation and prioritization of resources to overcome new obstacles. In addition to rolling out new technologies and collaboration tools, we have implemented processes and resources to support our employees in the event an employee receives a positive COVID-19 diagnosis. We have developed and are implementing plans regarding the opening of our sites and enable our employees to return to work in our global offices, the field and our manufacturing facilities, which plans take into account applicable public health authority and local government guidelines and which are designed to ensure community and employee safety. However, the effects of the COVID-19 pandemic continue to rapidly evolve and even if our employees more broadly return to work in our global offices, the field and our manufacturing facilities, we may nevertheless have to resume a remote work model. We continue to evaluate our remote work model and the impact of global spikes or surges in COVID-19 infection or hospitalization rates.

Commercialization

With respect to our commercialization activities, the evolving effects of the COVID-19 pandemic continue to have a negative impact on demand, new patient starts and treatments for our products, primarily due to the inherent limitations of

telemedicine and a reprioritization of healthcare resources toward COVID-19. Due to the nature of the pandemic, we are not able to accurately predict the duration or extent of these impacts on demand for our products. Beginning in March 2020, we transitioned our field-based sales, market access, reimbursement and medical employees out of the field and suspended work-related travel and in-person customer interactions. We utilized technology to continue to engage healthcare professionals and other customers virtually to support patient care. In late June 2020, as clinics and institutions began to allow in-person interactions pursuant to local health authority and government guidelines, our field teams resumed in-person interactions with healthcare professionals and clinics combined with virtual engagement. The level of renewed engagement varies by account, region and country and may be adversely impacted in the future as a result of the continuing impact of the COVID-19 pandemic.

For Xyrem and Xywav, COVID-19 protocols and staffing shortages at sleep labs across the U.S. have resulted in reduced access to sleep testing. Since the end of the first quarter of 2020, we have seen a decline in prescribers' ability to diagnose new narcolepsy patients and a related overall decline in new patients starting on therapy. Although patient persistence and compliance with oxybate therapy have increased during 2020, we continue to expect that delays in obtaining a narcolepsy diagnosis will have a negative impact on new Xyrem and Xywav patient enrollments in future quarters. For Sunosi, the impact on demand has been primarily related to the reduced ability of our field-based teams to interact with prescribers and patients' inability to meet with healthcare providers during this time. COVID-19 affected our Sunosi launch, impairing our ability to build new relationships, especially with pulmonologists, the main OSA prescriber group, who were at the forefront in the battle against the pandemic. As a result, we have seen slower than expected growth of Sunosi prescribers and new patient starts in the U.S. We also anticipate that pricing and reimbursement reviews by certain European regulatory authorities may take longer in certain countries due to the pandemic, which could delay our rolling Sunosi launch in those European Union, or EU, member states.

Following a decline in demand for Defitelio in the second quarter of 2020, we saw a resurgence in demand in the U.S. and outside the U.S. at the end of the second quarter through year's end due to some hematopoietic stem cell transplants being performed that were previously postponed due to COVID-19 related delays, postponements or suspensions of stem cell transplant procedures. Vyxeos demand declined in 2020 due to COVID-19 related delays in AML treatments primarily in the U.S. and due to recommendations to increase the use of oral oncology products to avoid hospitalizations and use of intensive care beds during the pandemic, which was partially offset by launches in Germany and Italy outside the U.S. Due to the ongoing impacts of the COVID-19 pandemic, we continue to expect a regional variation in the utilization of Defitelio and Vyxeos. Since the launch of Zepzelca in July 2020, we are experiencing strong initial physician reception and uptake of Zepzelca across academic and community accounts. Our sales force is actively engaging with target prescribers through virtual and live interactions, and we have been executing a broad multi-channel awareness campaign designed to grow awareness and utilization of Zepzelca.

We have also seen an upward trend in demand for patient financial assistance programs since the end of the first quarter of 2020. In this regard, total net product sales of Xywav for the year ended December 31, 2020 were offset by the cost of launch related co-pay coupons and a free product program for certain qualified patients. Depending on the ultimate duration and severity of the COVID-19 pandemic and the extent of a global economic slowdown, widespread unemployment and resulting loss of employer-sponsored insurance coverage, we may experience an increasing shift from commercial payor coverage to government payor coverage or increasing demand for patient assistance and/or free drug programs, which could continue to adversely affect net product sales.

Supply Chain

Our manufacturing facility in Athlone, Ireland, which produces Xyrem and Xywav, continues to be operational with essential staff onsite and office-based staff working remotely. In March 2020, we temporarily ceased operations at our Villa Guardia, Italy manufacturing facility, which produces defibrotide, to ensure the safety of our employees and communities in northern Italy. We reopened the facility in the second quarter of 2020 taking into account applicable public health authority and local government guidelines as well as employee safety, and the facility has now resumed operations. While we currently expect to have adequate global supply of Xyrem, Xywav, Sunosi, Defitelio, Vyxeos and Zepzelca for 2021, if the impacts of the COVID-19 pandemic become more severe and begin to impact supply of manufacturing materials or essential distribution systems such as general delivery services, or require us or our suppliers to again cease or restrict operations at our respective manufacturing facilities, we could experience disruptions to our supply chain and operations, and associated delays in the manufacturing and supply of our products, which would adversely impact our ability to generate sales of and revenues from our approved products.

Research and Development

With respect to our clinical trial activities, we have taken measures to implement remote and virtual approaches, including remote data monitoring where possible, to maintain patient safety and trial continuity and to preserve study integrity. We have seen limited COVID-19-related impact to our mid- and late-stage clinical trial activity, despite delays in initiating trial

sites. For example, while we temporarily suspended two of our healthy volunteer clinical development programs, JZP-385 and JZP-324, in the interest of volunteer safety, we were able to restart these clinical trials in the third quarter of 2020 with the implementation of appropriate safety protocols. While it has not been the case thus far, we could still see an impact on the ability to supply study drug, report trial results, or interact with regulators, ethics committees or other important agencies due to limitations in regulatory authority employee resources or otherwise. In addition, we rely on contract research organizations or other third parties to assist us with clinical trials, and we cannot guarantee that they will continue to perform their contractual duties in a timely and satisfactory manner as a result of the evolving effects of the COVID-19 pandemic. If these effects become more severe, we could experience significant disruptions to our clinical development timelines, which would adversely affect our business, financial condition, results of operations and growth prospects. In addition, some patients may not be able to comply with clinical trial protocols if quarantines impede patient movement or interrupt healthcare services. Similarly, our ability to recruit and retain patients and principal investigators and site staff who, as healthcare providers, may have heightened exposure to COVID-19, may adversely impact our clinical trial operations.

Corporate Development and Other Financial Impacts

With our strong cash balance and positive cash flow, we anticipate having sufficient liquidity to make planned investments in our business in support of our long-term growth strategy. However, the COVID-19 pandemic continues to rapidly evolve and has resulted in significant volatility in the global financial markets. If the disruption persists and deepens, we could experience an inability to access additional capital, which could in the future negatively affect our capacity for certain corporate development transactions or our ability to make other important, opportunistic investments. The effects of the pandemic could also impact our ability to do in-person due diligence, negotiations, and other interactions to identify new opportunities.

While we expect the effects of the COVID-19 pandemic to adversely affect our business operations and financial results, the extent of the impact on our ability to generate sales of and revenues from our approved products, execute on new product launches, our clinical development and regulatory efforts, our corporate development objectives and the value of and market for our ordinary shares, will depend on future developments that are highly uncertain and cannot be predicted with confidence at this time, such as the ultimate duration and severity of the pandemic, governmental "stay-at-home" orders and travel restrictions, quarantines, social distancing and business closure requirements in the U.S., Ireland and other countries, and the effectiveness of actions taken globally to contain and treat the disease, including the effectiveness and timing of vaccination programs in the U.S. and worldwide. For example, the inability of our workforce to return to office and field-based work and the ongoing stress and reprioritization within the healthcare systems in our key markets may require us to reassess the timing and scope of key business activities for the remainder of 2021, including with respect to our ability to continue the launch momentum for Xywav, Sunosi and Zepzelca.

Corporate Response

The COVID-19 pandemic has caused a significant burden on health systems globally and has highlighted the need for companies to evaluate existing therapies to assess if they can be utilized beyond their current indications to treat COVID-19 as well as consider developing new therapies. We have accelerated our efforts to study, build expertise and generate data around defibrotide in the treatment of acute respiratory distress syndrome, a severe and relatively common symptom of COVID-19. We have received and granted requests for multiple investigator-sponsored trials, or ISTs, to evaluate the use of defibrotide in COVID-19 patients experiencing respiratory distress. Three of these trials are currently recruiting patients including an IST in Spain for the prevention and treatment of respiratory distress and cytokine release syndrome, a trial in Italy to evaluate the reduction in the rate of respiratory failure in patients with COVID-19 pneumonia and an IST in Michigan evaluating the safety and tolerability of defibrotide for therapy of patients with SARS-CoV2-related acute respiratory distress syndrome.

In addition, we are supporting our local communities and patient-focused organizations in COVID-19 relief efforts including through corporate donations to charitable organizations providing food and medical relief to our communities in which we operate in Italy, Philadelphia and the San Francisco Bay Area, and other localities where the needs related to the impact of COVID-19 are greatest. We are engaging with patient advocacy organizations to better understand the impact of COVID-19 and working to ensure that patients living with sleep disorders and hematology and oncology conditions continue to have access to treatments and that their other needs are addressed given the impact of COVID-19 on the healthcare system. We are committed to enabling our employees to give back, including allowing licensed healthcare practitioners employed by us to support local response efforts.

Other Challenges, Risks and Trends Related to Our Business

Our business has been substantially dependent on Xyrem. Our future plans assume that our newly launched oxybate product Xywav, with 92% lower sodium compared to Xyrem, depending on the dose, absence of a sodium warning and dosing titration option, will become the treatment of choice for patients who can benefit from oxybate treatment, current Xyrem patients, and patients who previously were not prescribed Xyrem, including those patients for whom sodium content is a

concern. While we expect that our business will continue to be substantially dependent on oxybate product sales from both Xyrem and Xywav, there is no guarantee that we can maintain oxybate sales at or near historical levels, or that oxybate sales will continue to grow.

Our ability to successfully commercialize Xywav will depend on, among other things, our ability to obtain and maintain adequate coverage and reimbursement for Xywav and acceptance of Xywav by payors, physicians and patients. In an effort to support strong adoption of Xywav, we are focused on providing robust patient access programs and facilitating payor coverage for Xywav. Moreover, we have increasingly experienced pressure from third party payors to agree to discounts, rebates or restrictive pricing terms for our products, and we cannot guarantee we will be able to agree to commercially reasonable terms with pharmacy benefit managers, or PBMs, and other third party payors, or that we will be able to ensure patient access to our existing and future products and acceptance of our products on institutional formularies. Entering into agreements with PBMs and payors to ensure patient access has and will likely continue to result in higher gross to net deductions for these products. In addition to the COVID-19 related impacts described above, in the future, we expect our oxybate products to face competition from generic and authorized generic versions of sodium oxybate pursuant to the settlement agreements we have entered into with multiple abbreviated new drug application filers. Generic competition can decrease the prices at which Xyrem and Xywav are sold and the number of prescriptions written for Xyrem and Xywav. Xyrem and Xywav may also face increased competition from new branded products for treatment of cataplexy and/or EDS in narcolepsy in the U.S. market.

As for other products in our neuroscience therapeutic area, if we are unable to successfully commercialize Sunosi in the U.S. and Europe, or if sales of Sunosi do not reach the levels we expect, our anticipated revenue from Sunosi will be negatively affected, which would have a material adverse effect on our business, financial condition, results of operations and growth prospects.

In addition to our neuroscience products and product candidates, we are commercializing a portfolio of oncology products, including Defitelio, Erwinaze, Vyxeos and Zepzelca. An inability to effectively commercialize Defitelio, Vyxeos and Zepzelca and to maximize their potential where possible through successful research and development activities could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

Our license and supply agreement with Porton Biopharma Limited, a limited liability company wholly owned by the UK Secretary of State for Health, or PBL, which includes an exclusive right to market, sell or distribute Erwinaze, an exclusive license to Erwinaze trademarks, and a non-exclusive license to PBL's manufacturing know-how, expired on December 31, 2020. Under our agreement with PBL, we have the right to sell certain Erwinaze inventory for a post-termination sales period of 12 months and retain ownership of certain data, know-how and other property interests, including the BLA for Erwinaze in the U.S. and marketing authorizations for Erwinase in several other countries. Subject to successful receipt, release and FDA approval for the batches from PBL, we expect to distribute available Erwinaze supply during the first half of 2021. In addition, if we are unable to replace the future product sales we will lose from Erwinaze with our existing or future products, our business, financial condition, results of operations and growth prospects would be materially adversely affected.

A key aspect of our growth strategy is our continued investment in our evolving and expanding research and development activities. If we are not successful in the clinical development of these or other product candidates, if we are unable to obtain regulatory approval for our product candidates in a timely manner, or at all, or if sales of an approved product do not reach the levels we expect, our anticipated revenue from our product candidates would be negatively affected, which could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

In addition to continued investment in our research and development pipeline, we intend to grow our business by acquiring or in-licensing, and developing, including with collaboration partners, additional products and product candidates that we believe are highly differentiated and have significant commercial potential. Failure to identify and acquire, in-license or develop additional products or product candidates, successfully manage the risks associated with integrating any products or product candidates into our portfolio or the risks arising from anticipated and unanticipated problems in connection with an acquisition or in-licensing, could have a material adverse effect on our business, results of operations and financial condition.

Our industry has been, and is expected to continue to be, subject to healthcare cost containment and drug pricing scrutiny by regulatory agencies in the U.S. and internationally. If healthcare policies or reforms intended to curb healthcare costs are adopted or if we experience negative publicity with respect to pricing of our products or the pricing of pharmaceutical drugs generally, the prices that we charge for our products may be affected, our commercial opportunity may be limited and/or our revenues from sales of our products may be negatively impacted. We are also subject to increasing pricing pressure and restrictions on reimbursement imposed by payors. If we fail to obtain and maintain adequate formulary positions and institutional access for newly-launched products such as Sunosi, Xywav, Zepzelca and future approved products, we will not be able to achieve a return on our investment and our business, financial condition, results of operations and growth prospects would be materially adversely affected.

Finally, business practices by pharmaceutical companies, including product formulation improvements, patent litigation settlements, and REMS programs, have increasingly drawn public scrutiny from legislators and regulatory agencies, with allegations that such programs are used as a means of improperly blocking or delaying competition. If we become the subject of any future government investigation with respect to our business practices, including as they relate to the Xywav and Xyrem REMS, the launch of Xywav, our Xyrem patent litigation settlement agreements or otherwise, we could incur significant expense and could be distracted from operation of our business and execution of our strategy. From June to September 2020, a number of class action lawsuits were filed on behalf of purported direct and indirect Xyrem purchasers, alleging that the patent litigation settlement agreements we entered with certain generic companies violate state and federal antitrust and consumer protection laws. For additional information on these class action complaints, see Note 13, Commitments and Contingencies-Legal Proceedings of the Notes to Consolidated Financial Statements included in Part IV of this Annual Report on Form 10-K. It is possible that additional lawsuits will be filed against us making similar or related allegations. We cannot predict the outcome of these or potential additional lawsuits or government action; however, if the plaintiffs were to be successful in their claims, they may be entitled to injunctive relief or we may be required to pay significant monetary damages. Any of the foregoing risks and uncertainties could have a material adverse effect on our business, financial condition, results of operations and growth prospects. In addition, to the extent the COVID-19 pandemic continues to adversely affect our business and results of operations, it may also have the effect of heightening many of the other risks and uncertainties described above. All of these risks and uncertainties are discussed in greater detail, along with other risks and uncertainties, in "Risk Factors" in Part I, Item 1A of this Annual Report on Form 10-K.

Results of Operations

The following table presents revenues and expenses for the years ended December 31, 2020, 2019 and 2018 (in thousands except percentages):

	2020	Change	2019	Change	2018
Product sales, net	$ 2,346,660	10%	$ 2,135,601	14%	$ 1,869,473
Royalties and contract revenues	16,907	(35)%	26,160	22%	21,449
Cost of product sales (excluding amortization of acquired developed technologies)	148,917	16%	127,930	5%	121,544
Selling, general and administrative	854,233	16%	736,942	8%	683,530
Research and development	335,375	12%	299,726	32%	226,616
Intangible asset amortization	259,580	(27)%	354,814	76%	201,498
Impairment charges	136,139	N/A(1)	—	N/A(1)	42,896
Acquired in-process research and development	251,250	128%	109,975	N/A(1)	—
Interest expense, net	99,707	38%	72,261	(8)%	78,500
Foreign exchange loss	3,271	(44)%	5,811	(15)%	6,875
Income tax provision (benefit)	33,517	N/A(1)	(73,154)	N/A(1)	80,162
Equity in loss of investees	2,962	(28)%	4,089	86%	2,203

(1) Comparison to prior period is not meaningful.

Revenues

The following table presents product sales, royalties and contract revenues, and total revenues for the years ended December 31, 2020, 2019 and 2018 (in thousands except percentages):

	2020	Change	2019	Change	2018
Xyrem	$ 1,741,758	6%	$ 1,642,525	17%	$ 1,404,866
Xywav	15,264	N/A(1)	—	N/A(1)	—
Total Oxybate	1,757,022	7 %	1,642,525	17%	1,404,866
Sunosi	28,333	N/A(1)	3,714	N/A(1)	—
Total Neuroscience	1,785,355	8%	1,646,239	17%	1,404,866
Defitelio/defibrotide	195,842	13%	172,938	16%	149,448
Erwinaze/Erwinase	147,136	(17)%	177,465	2%	174,739
Vyxeos	121,105	—%	121,407	20%	100,835
Zepzelca	90,380	N/A(1)	—	N/A(1)	—
Total Oncology	554,463	18%	471,810	11%	425,022
Other	6,842	(61)%	17,552	(56)%	39,585
Product sales, net	2,346,660	10%	2,135,601	14%	1,869,473
Royalties and contract revenues	16,907	(35)%	26,160	22%	21,449
Total revenues	$ 2,363,567	9%	$ 2,161,761	14%	$ 1,890,922

(1) Comparison to prior period is not meaningful.

Product Sales, Net

Xyrem product sales increased in 2020 compared to 2019 primarily due to a higher average selling price and, to a lesser extent, an increase in sales volume, partially offset by higher gross to net deductions driven by managed care plans and commercial payor contracts. Price increases were instituted in January 2020, January and July 2019 and in January 2018. Xyrem product sales volume increased by 3% in 2020 compared to 2019 primarily driven by persistence and compliance among existing patients. In 2020 new patient diagnoses and enrollments were negatively impacted by COVID-19. Xywav product sales were $15.3 million in 2020, following its U.S. launch in November 2020. Total Oxybate product sales increased in 2020 compared to 2019 primarily due to a higher average selling price and, to a lesser extent, an increase in sales volume, partially offset by higher gross to net deductions. Total Oxybate product sales volume increased by 4% in 2020 compared to 2019. Xyrem product sales increased in 2019 compared to 2018 primarily due to a higher average net selling price and, to a lesser extent, an increase in sales volume. Xyrem product sales volume increased by 6% in 2019 compared to 2018 primarily driven by an increase in the average number of patients on Xyrem. Sunosi product sales were $28.3 million in 2020 compared to $3.7 million in 2019. Sunosi launched in the U.S. in July 2019 and the European rolling launch commenced in May 2020. Defitelio/defibrotide product sales increased in 2020 compared to 2019, primarily due to higher sales volumes, partially offset by lower average net selling price due to regional mix. Defitelio/defibrotide product sales increased in 2019 compared to 2018, primarily due to higher sales volumes, partially offset by the negative impact of foreign exchange rates. Erwinaze/Erwinase product sales decreased in 2020 compared to 2019 primarily due to limited availability of supply of inventory from the manufacturer. Erwinaze/Erwinase product sales increased in 2019 compared to 2018 primarily due to higher sales volume as a result of the timing of availability of supply from the manufacturer. Ongoing supply challenges continue to negatively impact our ability to supply the market. Vyxeos product sales in 2020 were in line with 2019. Vyxeos product sales increased in 2019 compared to 2018 primarily due to volumes following the commercial launch in Europe in September 2018. Zepzelca product sales were $90.4 million in 2020, following its U.S. launch in July 2020.

Royalties and Contract Revenues

Royalties and contract revenues decreased in 2020 compared to 2019 primarily due to lower milestone revenues from out-licensing agreements. Royalties and contract revenues increased in 2019 compared to 2018 primarily due to higher contract revenues from out-licensing agreements.

Cost of Product Sales

Cost of product sales increased in 2020 and in 2019 compared to 2018, primarily due to changes in product mix and increases in net product sales. Gross margin as a percentage of net product sales was 93.7%, 94.0% and 93.5% in 2020, 2019 and 2018, respectively.

Selling, General and Administrative Expenses

Selling, general and administrative expenses increased in 2020 compared to 2019 primarily due to increased investment in sales, marketing and launch activities related to the launches of Zepzelca and Xywav in the U.S., and the continuation of the launch of Sunosi in the U.S., as well as an increase in other expenses related to the expansion of our business. Selling, general and administrative expenses increased in 2019 compared to 2018 primarily due to higher expenses related to the launch of Sunosi in the U.S., an increase in compensation-related expenses driven by higher headcount, and an increase in other expenses related to the expansion and support of our business, partially offset by the recognition of a loss contingency, including related interest, of $58.2 million in 2018 resulting from a settlement agreement with the U.S. Department of Justice, or DOJ, and the Office of Inspector General of the U.S. Department of Health and Human Services, or OIG.

Research and Development Expenses

Research and development expenses consist primarily of costs related to clinical studies and outside services, personnel expenses, milestone expenses and other research and development costs. Clinical study and outside services costs relate primarily to services performed by clinical research organizations, materials and supplies, and other third party fees. Personnel expenses relate primarily to salaries, benefits and share-based compensation. Other research and development expenses primarily include overhead allocations consisting of various support and facilities-related costs. We do not track fully-burdened research and development expenses on a project-by-project basis. We manage our research and development expenses by identifying the research and development activities that we anticipate will be performed during a given period and then prioritizing efforts based on our assessment of which development activities are important to our business and have a reasonable probability of success, and by dynamically allocating resources accordingly. We also continually review our development pipeline projects and the status of their development and, as necessary, reallocate resources among our development pipeline projects that we believe will best support the future growth of our business.

The following table provides a breakout of our research and development expenses by major categories of expense (in thousands):

	Year Ended December 31,		
	2020	2019	2018
Clinical studies and outside services	$ 169,904	$ 133,042	$ 117,903
Personnel expenses	127,794	100,090	71,158
Milestone expense	1,000	26,000	11,000
Other	36,677	40,594	26,555
Total	$ 335,375	$ 299,726	$ 226,616

Research and development expenses increased by $35.6 million in 2020 compared to 2019. Clinical studies and outside services costs increased in 2020 compared to 2019 primarily due to the progress made on our clinical programs, including JZP-458 and JZP-385. Personnel expenses increased by $27.7 million in 2020 compared to 2019, primarily due to increased headcount in support of our development programs. Milestone expense decreased by $25.0 million in 2020 compared to 2019. Milestone expense of $26.0 million in 2019 related to milestone payments made under our license and option agreement with Ligand. Research and development expenses increased by $73.1 million in 2019 compared to 2018. Clinical studies and outside services costs increased in 2019 compared to 2018 primarily due to an increase in expenses related to our ongoing preclinical and clinical development programs and support of partner programs. Personnel expenses increased by $28.9 million in 2019 compared to 2018, primarily due to increased headcount in support of our development programs. Milestone expense increased by $15.0 million in 2019 compared to 2018. Milestone expense of $11.0 million in 2018 related to milestone payments following FDA acceptance of our NDA for Sunosi.

Intangible Asset Amortization

Intangible asset amortization decreased in 2020 compared to 2019 primarily due to the amortization of the cost of the priority review voucher, or PRV, of $111.1 million in full in 2019 following the notification to FDA of our intention to redeem it in the NDA submission for Xywav, partially offset by the commencement of amortization of the Zepzelca intangible asset upon FDA approval in June 2020. Intangible asset amortization increased in 2019 compared to 2018 primarily due to the amortization of the cost of the PRV of $111.1 million and the reduction in the estimated remaining useful life of the Erwinaze intangible asset resulting from the contract termination notice we received from PBL in February 2019.

Impairment Charges

In 2020, we recorded an acquired in-process research and development, or IPR&D, asset impairment charge of $136.1 million following the decision to stop enrollment in our Phase 3 clinical study of defibrotide for the prevention of VOD due to a determination that the study is highly unlikely to reach one of its primary endpoints.

In June 2018, we entered into an asset purchase agreement, or APA, with TerSera Therapeutics LLC, or TerSera, pursuant to which TerSera agreed to purchase substantially all of the assets held by us related to Prialt. In connection with the entry into the APA, which was subsequently amended, we reclassified the Prialt assets to be transferred to TerSera as assets held for sale and recorded these assets at fair value, less estimated sales costs, resulting in the recognition of an impairment charge of $42.9 million in 2018. The transaction closed in September 2018.

Acquired In-Process Research and Development

Acquired IPR&D expense in 2020 primarily related to an upfront payment of $200.0 million to PharmaMar in connection with our license agreement for Zepzelca. In 2019, acquired IPR&D expense primarily related to an upfront payment of $56.0 million to Codiak in connection with our strategic collaboration agreement and the value attributed to JZP-385 in the acquisition of Cavion, Inc., or Cavion.

Interest Expense, Net

Interest expense, net increased by $27.4 million in 2020 compared to 2019, primarily due to higher non-cash interest expense following the issuance of the 2026 Notes, lower interest income and a loss on extinguishment of debt related to the partial repurchases of the 2021 Notes. Interest expense, net decreased by $6.2 million in 2019 compared to 2018, primarily due to higher interest income.

Foreign Exchange Loss

The foreign exchange loss is primarily related to the translation of euro-denominated net monetary liabilities, primarily intercompany balances, held by subsidiaries with a U.S. dollar functional currency and related foreign exchange forward contracts not designated as hedging instruments.

Income Tax Provision (Benefit)

Our income tax provision was $33.5 million and $80.2 million in 2020 and 2018, respectively, and our income tax benefit was $73.2 million in 2019. The income tax benefit in 2019 included a discrete tax benefit of $112.3 million resulting from an intra-entity intellectual property asset transfer. The tax benefit, which represents a deferred future benefit, was recorded as a deferred tax asset. The effective tax rates for 2020, 2019 and 2018 were 12.2%, (16.1)% and 15.1%, respectively. The effective tax rate for 2020 was lower than the Irish statutory rate of 12.5% primarily due to the impact of originating tax credits and deductions on subsidiary equity, partially offset by income taxable at a higher rate than the Irish statutory rate, the disallowance of certain interest deductions and a provision for a proposed settlement reached with the French tax authorities. The effective tax rate for 2019 was lower than the Irish statutory rate of 12.5% primarily due to the impact of the intra-entity intellectual property asset transfer. The effective tax rate for 2018 was higher than the Irish statutory rate of 12.5%, primarily due to income taxable at a rate higher than the Irish statutory rate and unrecognized tax benefits, partially offset by the release of reserves related to unrecognized tax benefits from the expiration of a statute of limitation, originating tax credits and the release of a valuation allowance held against certain foreign net operating losses, or NOLs. The increase in the effective tax rate in 2020 compared to 2019 was primarily due to the impact of the intra-entity intellectual property asset transfer. Excluding this effect, the increase in the effective tax rate for 2020 compared to 2019 was primarily due to the benefit recognized in 2019 from the application of the Italian patent box incentive regime 2015 through 2019 and the impact of the disallowance of certain interest deductions and a provision for a proposed settlement reached with the French tax authorities. The decrease in the effective tax rate in 2019 compared to 2018 was primarily due to the impact of the intra-entity intellectual property asset transfer. Excluding this effect, the decrease in the effective tax rate in 2019 compared to 2018 was primarily due to the benefit from the application of the Italian patent box incentive regime for 2015 through 2019.

Equity in Loss of Investees

Equity in loss of investees relates to our share in the net loss of companies in which we have made investments accounted for under the equity method of accounting.

Liquidity and Capital Resources

As of December 31, 2020, we had cash, cash equivalents and investments of $2.1 billion, borrowing availability under our revolving credit facility of $1.6 billion and a long-term debt principal balance of $2.4 billion. Our long-term debt included $584.3 million aggregate principal amount term loan, $218.8 million principal amount of the 2021 Notes, $575.0 million principal amount of our 1.50% exchangeable senior notes due 2024, or the 2024 Notes, and $1.0 billion principal amount of the 2026 Notes. During 2020, 2019 and 2018, we generated cash flows from operations of $899.6 million, $776.4 million and $798.9 million, respectively, and we expect to continue to generate positive cash flow from operations.

We believe that our existing cash, cash equivalents and investments balances, cash we expect to generate from operations and funds available under our revolving credit facility will be sufficient to fund our operations and to meet our existing

obligations for the foreseeable future. The adequacy of our cash resources depends on many assumptions, including primarily our assumptions with respect to product sales and expenses, as well as the other factors set forth in "Risk Factors" in Part I, Item 1A of this Annual Report on Form 10-K under the headings "Risks Related to our Lead Products and Product Candidates" and *"To continue to grow our business, we will need to commit substantial resources, which could result in future losses or otherwise limit our opportunities or affect our ability to operate and grow our business."* Our assumptions may prove to be wrong or other factors may adversely affect our business, and as a result we could exhaust or significantly decrease our available cash resources, and we may not be able to generate sufficient cash to service our debt obligations which could, among other things, force us to raise additional funds and/or force us to reduce our expenses, either of which could have a material adverse effect on our business.

To continue to grow our business over the longer term, we plan to commit substantial resources to product acquisition and in-licensing, product development, clinical trials of product candidates and expansion of our commercial, development, manufacturing and other operations. In this regard, we have evaluated and expect to continue to evaluate a wide array of strategic transactions as part of our strategy to acquire or in-license and develop additional products and product candidates. Acquisition opportunities that we pursue could materially affect our liquidity and capital resources and may require us to incur additional indebtedness, seek equity capital or both. In addition, we may pursue new operations or continue the expansion of our existing operations. Accordingly, we expect to continue to opportunistically seek access to additional capital to license or acquire additional products, product candidates or companies to expand our operations or for general corporate purposes. Raising additional capital could be accomplished through one or more public or private debt or equity financings, collaborations or partnering arrangements. However, the COVID-19 pandemic continues to rapidly evolve and has resulted in significant volatility in the global financial markets. If the disruption persists and deepens, we could experience an inability to access additional capital or an impact on liquidity, which could in the future negatively affect our capacity for certain corporate development transactions or our ability to make other important, opportunistic investments. In addition, any equity financing would be dilutive to our shareholders, and the consent of the lenders under the amended credit agreement could be required for certain financings.

In November 2016, our board of directors authorized a share repurchase program and as of December 31, 2020 had authorized the repurchase of up to $1.5 billion, exclusive of any brokerage commissions. Under this program, which has no expiration date, we may repurchase ordinary shares from time to time on the open market. The timing and amount of repurchases will depend on a variety of factors, including the price of our ordinary shares, alternative investment opportunities, restrictions under the amended credit agreement, corporate and regulatory requirements and market conditions. The share repurchase program may be modified, suspended or discontinued at any time without prior notice. In 2020, we spent a total of $146.5 million to repurchase 1.2 million of our ordinary shares at an average total purchase price, including brokerage commissions, of $121.98 per share. In 2019, we spent a total of $301.5 million to repurchase 2.3 million of our ordinary shares at an average total purchase price, including brokerage commissions, of $133.97 per share. All ordinary shares repurchased were canceled. As of December 31, 2020, the remaining amount authorized under the share repurchase program was $431.2 million.

The following table shows a summary of our cash flows for the periods indicated (in thousands):

	Year Ended December 31,		
	2020	2019	2018
Net cash provided by operating activities	$ 899,648	$ 776,401	$ 798,904
Net cash used in investing activities	(1,007,670)	(155,300)	(394,487)
Net cash provided by (used in) financing activities	528,073	(293,745)	(479,130)
Effect of exchange rates on cash and cash equivalents	374	366	(1,700)
Net increase (decrease) in cash and cash equivalents	$ 420,425	$ 327,722	$ (76,413)

Operating activities

Net cash provided by operating activities increased by $123.2 million in 2020 compared to 2019, primarily due to:

- A decrease in net outflow related to changes in operating assets and liabilities including the impact of a $58.6 million payment related to a civil settlement agreement with the DOJ and the OIG in 2019 together with an increase in accounts receivable of $38.6 million due to higher product sales together with the timing of receipts from customers and other working capital movements.

Net cash provided by operating activities decreased by $22.5 million in 2019 compared to 2018, primarily due to:

- An increase in net outflow related to changes in operating assets and liabilities including the impact of the $58.6 million payment related to the civil settlement agreement with the DOJ and the OIG in 2019 together with the timing of receipts from customers and other working capital movements.

Investing activities

Net cash used in investing activities increased by $852.4 million in 2020 compared to 2019, primarily due to the following:

- $710.6 million net increase in the acquisition of investments, primarily time deposits;
- $189.6 million increase in upfront payments for acquired IPR&D primarily driven by the $200.0 million payment under our license agreement with PharmaMar and the $35.0 million payment under our asset purchase and exclusive license agreement with SpringWorks in 2020, compared to 2019 which included a payment of $56.0 million under our strategic collaboration agreement with Codiak; partially offset by
- The impact of consideration, net of cash acquired of $55.1 million related to our acquisition of Cavion in 2019.

Net cash used in investing activities decreased by $239.2 million in 2019 compared to 2018, primarily due to the following:

- $378.8 million net decrease in the acquisition of investments, primarily time deposits; partially offset by
- $61.7 million increase in upfront payments for acquired IPR&D primarily driven by the upfront payment of $56.0 million to Codiak in 2019;
- The impact of consideration, net of cash acquired of $55.1 million related to our acquisition of Cavion in 2019; and
- $33.7 million decrease in net proceeds from the sale of assets related to the sale of our rights to Prialt to TerSera in September 2018.

Financing activities

Net cash provided by (used in) financing activities increased by $821.8 million in 2020 compared to 2019, primarily due to:

- The receipt of $981.4 million in net proceeds from the issuance of the 2026 Notes, partially offset by $356.2 million of payments for partial repurchases of the 2021 Notes;
- A decrease of $154.9 million in share repurchases; and
- An increase of $41.9 million in proceeds from employee equity incentive and purchase plans.

Net cash provided by (used in) financing activities decreased by $185.4 million in 2019 compared to 2018, primarily due to:

- A decrease of $222.2 million in share repurchases; partially offset by
- A decrease of $35.5 million in proceeds from employee equity incentive and purchase plans.

Credit Agreement

On June 18, 2015, Jazz Pharmaceuticals plc, as guarantor, and certain of our wholly owned subsidiaries, as borrowers, entered into the 2015 credit agreement that provided for a $750.0 million principal amount term loan, which was drawn in full at closing, and a $750.0 million revolving credit facility, of which $160.0 million was drawn at closing and subsequently repaid. We used the proceeds from initial borrowings under the 2015 credit agreement to repay in full the $893.1 million principal amount of term loans outstanding under a previous credit agreement, and to pay related fees and expenses. The previous credit agreement was terminated upon repayment of the term loans outstanding thereunder.

On July 12, 2016, Jazz Pharmaceuticals plc, as guarantor, and certain of our wholly owned subsidiaries, as borrowers, entered into Amendment No. 1 to our 2015 credit agreement to provide for a revolving credit facility of $1.25 billion and a $750.0 million term loan facility. We used the proceeds of $1.0 billion of loans under the revolving credit facility, together with cash on hand, to fund the Celator Acquisition.

On June 7, 2018, we entered into the second amendment to the 2015 credit agreement to provide for a revolving credit facility of $1.6 billion, which replaced the existing revolving credit facility of $1.25 billion, and a new $667.7 million term loan facility, which replaced the $750.0 million term loan facility, of which $584.3 million principal amount was outstanding as of December 31, 2020. We refer to the 2015 credit agreement as amended by the first and second amendments as the amended credit agreement in this report. We expect to use the proceeds from future loans under the revolving credit facility, if any, for permitted capital expenditures and acquisitions, to provide for ongoing working capital requirements and for other general corporate purposes.

Under the amended credit agreement, the term loan matures on June 7, 2023 and the revolving credit facility terminates, and any loans outstanding thereunder become due and payable, on June 7, 2023.

Borrowings under the amended credit agreement bear interest, at our option, at a rate equal to either (a) the LIBOR rate, plus an applicable margin ranging from 1.375% to 1.750% per annum, based upon our secured leverage ratio, or (b) the prime lending rate, plus an applicable margin ranging from 0.375% to 0.750% per annum, based upon our secured leverage ratio. The revolving credit facility has a commitment fee payable on the undrawn amount ranging from 0.25% to 0.35% per annum based upon our secured leverage ratio.

As of December 31, 2020, the interest rate on the term loan was 1.52% and the effective interest rate was 3.66%. As of December 31, 2020, we had undrawn amounts under our revolving credit facility totaling $1.6 billion.

Jazz Pharmaceuticals plc and certain of our wholly owned subsidiaries are borrowers under the amended credit agreement. The borrowers' obligations under the amended credit agreement and any hedging or cash management obligations entered into with a lender are guaranteed on a senior secured basis by Jazz Pharmaceuticals plc and certain of our subsidiaries (including the issuer of the 2021 Notes, the 2024 Notes and the 2026 Notes, together referred to as the Exchangeable Senior Notes as described below) and are secured by substantially all of Jazz Pharmaceuticals plc's, the borrowers' and the guarantor subsidiaries' assets.

We may make voluntary prepayments of principal at any time without payment of a premium. We are required to make mandatory prepayments of the term loan (without payment of a premium) with (1) net cash proceeds from certain non-ordinary course asset sales (subject to other exceptions), (2) net cash proceeds from issuances of debt (other than certain permitted debt), and (3) casualty proceeds and condemnation awards (subject to other exceptions).

Principal repayments of the term loan, which are due quarterly, are equal to 5.0% per annum of the principal amount outstanding on June 7, 2018 of $667.7 million, with any remaining balance payable on the maturity date.

The amended credit agreement contains financial covenants that require Jazz Pharmaceuticals plc and our restricted subsidiaries to not (a) exceed a maximum secured net leverage ratio or (b) fall below a cash interest coverage ratio. As of December 31, 2020, we were in compliance with these financial covenants.

Exchangeable Senior Notes

2026 Notes. In the second quarter of 2020, Jazz Investments I Limited, our wholly owned subsidiary, completed a private placement of $1.0 billion principal amount of the 2026 Notes. We used a portion of the net proceeds from this offering to repurchase for cash $332.9 million aggregate principal amount of the 2021 Notes through privately-negotiated transactions concurrently with the offering of the 2026 Notes. Interest on the 2026 Notes is payable semi-annually in cash in arrears on June 15 and December 15 of each year, beginning on December 15, 2020, at a rate of 2.00% per year. In certain circumstances, we may be required to pay additional amounts as a result of any applicable tax withholding or deductions required in respect of payments on the 2026 Notes. The 2026 Notes mature on June 15, 2026, unless earlier exchanged, repurchased or redeemed.

The holders of the 2026 Notes have the ability to require us to repurchase all or a portion of their 2026 Notes for cash in the event we undergo certain fundamental changes, such as specified change of control transactions, our liquidation or dissolution or the delisting of our ordinary shares from any of The New York Stock Exchange, The Nasdaq Global Market, The Nasdaq Global Select Market or The Nasdaq Capital Market (or any of their respective successors). Additionally, the terms and covenants in the indenture related to the 2026 Notes include certain events of default after which the 2026 Notes may be due and payable immediately. Prior to June 15, 2026, we may redeem the 2026 Notes, in whole but not in part, subject to compliance with certain conditions, if we have, or on the next interest payment date would, become obligated to pay to the holder of any 2026 Notes additional amounts as a result of certain tax-related events. We also may redeem the 2026 Notes on or after June 20, 2023 and prior to March 15, 2026, in whole or in part, if the last reported sale price per ordinary share has been at least 130% of the exchange price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period ending on, and including, the trading day immediately preceding the date on which we provide the notice of redemption.

The 2026 Notes are exchangeable at an initial exchange rate of 6.4182 ordinary shares per $1,000 principal amount of 2026 Notes, which is equivalent to an initial exchange price of approximately $155.81 per ordinary share. Upon exchange, the 2026 Notes may be settled in cash, ordinary shares or a combination of cash and ordinary shares, at our election. Our intent and policy is to settle the principal amount of the 2026 Notes in cash upon exchange. The exchange rate will be subject to adjustment in some events but will not be adjusted for any accrued and unpaid interest. In addition, following certain make-whole fundamental changes occurring prior to the maturity date of the 2026 Notes or upon our issuance of a notice of redemption, we will in certain circumstances increase the exchange rate for holders of the 2026 Notes who elect to exchange their 2026 Notes in connection with that make-whole fundamental change or during the related redemption period. Prior to March 15, 2026, the 2026 Notes will be exchangeable only upon satisfaction of certain conditions and during certain periods, and thereafter, at any time until the close of business on the second scheduled trading day immediately preceding the maturity date.

2024 Notes. In the third quarter of 2017, our wholly owned subsidiary Jazz Investments I Limited, completed a private placement of $575.0 million principal amount of 2024 Notes. We used the net proceeds from this offering to repay $500.0 million in outstanding loans under the revolving credit facility under the amended credit agreement and to pay related fees and expenses. We used the remainder of the net proceeds for general corporate purposes. The 2024 Notes are senior unsecured obligations of Jazz Investments I Limited and are fully and unconditionally guaranteed on a senior unsecured basis by Jazz Pharmaceuticals plc and will rank pari passu in right of payment with the existing 2021 Notes. Interest on the 2024 Notes is payable semi-annually in cash in arrears on February 15 and August 15 of each year, beginning on February 15, 2018, at a rate of 1.50% per year. In certain circumstances, we may be required to pay additional amounts as a result of any applicable tax withholding or deductions required in respect of payments on the 2024 Notes. The 2024 Notes mature on August 15, 2024, unless earlier exchanged, repurchased or redeemed.

The holders of the 2024 Notes have the ability to require us to repurchase all or a portion of their 2024 Notes for cash in the event we undergo certain fundamental changes, such as specified change of control transactions, our liquidation or dissolution or the delisting of our ordinary shares from The Nasdaq Global Select Market. Prior to August 15, 2024, we may redeem the 2024 Notes, in whole but not in part, subject to compliance with certain conditions, if we have, or on the next interest payment date would, become obligated to pay to the holder of any 2024 Notes additional amounts as a result of certain tax-related events. We also may redeem the 2024 Notes on or after August 20, 2021, in whole or in part, if the last reported sale price per ordinary share has been at least 130% of the exchange price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period ending on, and including, the trading day immediately preceding the date on which we provide the notice of redemption.

The 2024 Notes are exchangeable at an initial exchange rate of 4.5659 ordinary shares per $1,000 principal amount of 2024 Notes, which is equivalent to an initial exchange price of approximately $219.02 per ordinary share. Upon exchange, the 2024 Notes may be settled in cash, ordinary shares or a combination of cash and ordinary shares, at our election. Our intent and policy is to settle the principal amount of the 2024 Notes in cash upon exchange. The exchange rate will be subject to adjustment in some events but will not be adjusted for any accrued and unpaid interest. In addition, following certain make-whole fundamental changes occurring prior to the maturity date of the 2024 Notes or upon our issuance of a notice of redemption, we will in certain circumstances increase the exchange rate for holders of the 2024 Notes who elect to exchange their 2024 Notes in connection with that make-whole fundamental change or during the related redemption period. Prior to May 15, 2024, the 2024 Notes will be exchangeable only upon satisfaction of certain conditions and during certain periods, and thereafter, at any time until the close of business on the second scheduled trading day immediately preceding the maturity date.

2021 Notes. In August 2014, Jazz Investments I Limited completed a private placement of $575.0 million principal amount of the 2021 Notes. The 2021 Notes are senior unsecured obligations of Jazz Investments I Limited and are fully and unconditionally guaranteed on a senior unsecured basis by Jazz Pharmaceuticals plc. Interest on the 2021 Notes is payable semi-annually in cash in arrears on February 15 and August 15 of each year, beginning on February 15, 2015, at a rate of 1.875% per year. In certain circumstances, we may be required to pay additional amounts as a result of any applicable tax withholding or deductions required in respect of payments on the 2021 Notes. The 2021 Notes mature on August 15, 2021, unless earlier exchanged, repurchased or redeemed.

The holders of the 2021 Notes have the ability to require us to repurchase all or a portion of their 2021 Notes for cash in the event we undergo certain fundamental changes, such as specified change of control transactions, our liquidation or dissolution or the delisting of our ordinary shares from The Nasdaq Global Select Market. Prior to August 15, 2021, we may redeem the 2021 Notes, in whole but not in part, subject to compliance with certain conditions, if we have, or on the next interest payment date would, become obligated to pay to the holder of any 2021 Note additional amounts as a result of certain tax-related events. We also may redeem the 2021 Notes on or after August 20, 2018, in whole or in part, if the last reported sale price per ordinary share has been at least 130% of the exchange price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period ending on, and including, the trading day immediately preceding the date on which we provide the notice of redemption.

The 2021 Notes are exchangeable at an initial exchange rate of 5.0057 ordinary shares per $1,000 principal amount of 2021 Notes, which is equivalent to an initial exchange price of approximately $199.77 per ordinary share. Upon exchange, the 2021 Notes may be settled in cash, ordinary shares or a combination of cash and ordinary shares, at our election. Our intent and policy is to settle the principal amount of the 2021 Notes in cash upon exchange. The exchange rate will be subject to adjustment in some events but will not be adjusted for any accrued and unpaid interest. In addition, following certain make-whole fundamental changes occurring prior to the maturity date of the 2021 Notes or upon our issuance of a notice of redemption, we will in certain circumstances increase the exchange rate for holders of the 2021 Notes who elect to exchange their 2021 Notes in connection with that make-whole fundamental change or during the related redemption period. Prior to February 15, 2021, the 2021 Notes will be exchangeable only upon satisfaction of certain conditions and during certain periods, and thereafter, at any time until the close of business on the second scheduled trading day immediately preceding the maturity date.

Concurrently with the offering of the 2026 Notes, we repurchased $332.9 million aggregate principal amount of the 2021 Notes. In the third quarter of 2020, we repurchased a further $23.3 million aggregate principal amount of the 2021 Notes. As of December 31, 2020, the principal amount of the 2021 Notes remaining was $218.8 million.

Contractual Obligations

The table below presents a summary of our contractual obligations as of December 31, 2020 (in thousands):

	Payments Due by Period				
Contractual Obligations (1)	**Total**	**Less than 1 Year**	**1-3 Years**	**3-5 Years**	**More than 5 years**
Term loan - principal	$ 584,268	$ 33,387	$ 550,881	$ —	$ —
Term loan - interest (2)	23,348	11,632	11,716	—	—
Exchangeable Senior Notes - principal	1,793,812	218,812	—	575,000	1,000,000
Exchangeable Senior Notes - interest (3)	148,603	32,728	57,250	48,625	10,000
Revolving credit facility - commitment fee (4)	9,856	4,056	5,800	—	—
Commitment to equity method investees	7,400	7,000	400	—	—
Purchase and other obligations (5)	128,669	111,987	16,265	378	39
Operating lease obligations (6)	196,341	22,393	44,772	42,681	86,495
Total	$ 2,892,297	$ 441,995	$ 687,084	$ 666,684	$ 1,096,534

(1) This table does not include potential future milestone payments or royalty obligations to third parties under asset purchase, product development, license and other agreements as the timing and likelihood of such milestone payments are not known, and, in the case of royalty obligations, as the amount of such obligations are not estimable. Our contingent obligations to third parties, in the form of development, regulatory and sales-based milestone payments, as of December 31, 2020 included $1,025.0 million across five targets under our strategic collaboration agreement with Codiak, $707.0 million under our amended license agreement with PharmaMar, $613.0 million under asset purchase and collaboration agreements with Redx, $375.0 million under the asset purchase and exclusive license agreement with SpringWorks, $260.0 million in connection with our acquisition of Cavion, $165.0 million to Aerial BioPharma LLC and SK Biopharmaceuticals Co. Ltd in connection with our acquisition of the rights to Sunosi, $162.5 million under our license agreement with Ligand and $531.5 million related to other agreements.

(2) Estimated interest for variable rate debt was calculated based on the interest rates in effect as of December 31, 2020. The interest rate for our term loan borrowing was 1.52% as of December 31, 2020. Interest that is fixed, associated with our interest rate swaps, is calculated based on the fixed interest swap rate as of December 31, 2020.

(3) We used the fixed interest rates of 1.875% on the 2021 Notes, 1.5% on the 2024 Notes and 2.0% on the 2026 Notes to estimate interest owed as of December 31, 2020 until the respective final maturity dates of these notes.

(4) Our revolving credit facility has a commitment fee payable on the undrawn amount ranging from 0.25% to 0.35% per annum based upon our secured leverage ratio. In the table above, we used a rate of 0.25% and assumed undrawn amounts of $1.6 billion as of December 31, 2020 to estimate commitment fees owed.

(5) Consists primarily of non-cancelable commitments to our third party manufacturers and for marketing campaigns.

(6) Consists primarily of the minimum lease payments for our office buildings and automobile lease payments for our sales force. Operating expenses associated with our leased office buildings are not included in table above.

We do not provide for Irish income taxes on undistributed earnings of our foreign operations that are intended to be indefinitely reinvested in our foreign subsidiaries. Temporary differences related to foreign subsidiaries that are considered indefinitely reinvested totaled approximately $1.9 billion at December 31, 2020. In the event of the distribution of those earnings in the form of dividends, a sale of the subsidiaries, or certain other transactions, we may be liable for income taxes, subject to an adjustment, if any, for foreign tax credits and foreign withholding taxes payable to certain foreign tax authorities. As of December 31, 2020, it is not practicable to determine the amount of the income tax liability related to these undistributed earnings due to a variety of factors.

In addition, our liability for unrecognized tax benefits has been excluded from the above contractual obligations table as the nature and timing of future payments, if any, cannot be reasonably estimated. As of December 31, 2020, our liability for gross unrecognized tax benefits amounted to $146.6 million (excluding interest and penalties). We do not anticipate that the amount of our existing liability for unrecognized tax benefits will significantly change in the next twelve months.

Critical Accounting Policies and Significant Estimates

A critical accounting policy is one that is both important to the portrayal of our financial condition and results of operations and requires management's most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain. While our significant accounting policies are described in more detail in Note 2, Summary of Significant Accounting Policies, of the Notes to Consolidated Financial Statements included in Part IV of this Annual Report on Form 10-K, we believe the following accounting estimates and policies to be critical.

Revenue Recognition

Revenues are recognized when control of the promised goods or services is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for those goods or services.

Product Sales, Net

Product sales revenue is recognized when control has transferred to the customer, which occurs at a point in time, which is typically on delivery to the customer or, in the case of products that are subject to consignment agreements, when the customer removes product from our consigned inventory location for shipment directly to a patient.

A significant portion of our net product revenues is derived from sales of Xyrem. We sell Xyrem in the U.S. to a single central pharmacy, Express Scripts Specialty Distribution Services, Inc., or ESSDS. In 2020, sales of Xyrem to Express Scripts accounted for 74% of our net product sales. We recognize revenues from sales of Xyrem within the U.S. when control has transferred to the customer, which occurs when ESSDS removes product from our consigned inventory location at its facility for shipment directly to a patient. We do not accept returns of Xyrem from ESSDS.

Items Deducted from Gross Product Sales. Revenues from sales of products are recorded net of government rebates and rebates under managed care plans and commercial payor contracts, estimated allowances for sales returns, government chargebacks, prompt payment discounts, patient coupon programs, and specialty distributor and wholesaler fees. Calculating certain of these items involves estimates and judgments based on sales or invoice data, contractual terms, historical utilization rates, new information regarding changes in applicable regulations and guidelines that would impact the amount of the actual rebates, our expectations regarding future utilization rates and channel inventory data. We review the adequacy of our provisions for sales deductions on a quarterly basis. Amounts accrued for sales deductions are adjusted when trends or significant events indicate that adjustment is appropriate and to reflect actual experience. Because we derive a significant portion of our revenues from sales of Xyrem in the U.S. to one specialty pharmacy customer, ESSDS, we have a much higher level of knowledge about each prescription than if we sold the product through the normal pharmaceutical wholesaler channel as we do with most of our other products. The most significant items deducted from gross product sales where we exercise judgment are rebates, sales returns and chargebacks.

The following table presents the activity and ending balances for our sales-related accruals and allowances (in thousands):

	Rebates Payable	Sales Returns Reserve	Chargebacks	Discounts and Distributor Fees	Total
Balance at December 31, 2017	$ 77,162	$ 3,651	$ 3,663	$ 4,309	$ 88,785
Provision, net	160,648	1,203	41,387	42,956	246,194
Payments/credits	(156,696)	(2,344)	(44,642)	(41,808)	(245,490)
Balance at December 31, 2018	81,114	2,510	408	5,457	89,489
Provision, net	153,930	5,519	41,864	56,041	257,354
Payments/credits	(152,191)	(4,567)	(41,139)	(47,378)	(245,275)
Balance at December 31, 2019	82,853	3,462	1,133	14,120	101,568
Provision, net	288,052	18,448	45,550	69,332	421,382
Payments/credits	(260,020)	(3,542)	(41,390)	(66,659)	(371,611)
Balance at December 31, 2020	$ 110,885	$ 18,368	$ 5,293	$ 16,793	$ 151,339

Total items deducted from gross product sales were $421.4 million, $257.4 million and $246.2 million, or 15.2%, 10.8% and 11.6% as a percentage of gross product sales, in 2020, 2019 and 2018, respectively. Included in these amounts are immaterial adjustments related to prior-year sales due to changes in estimates. Such amounts represented less than 1% of net product sales for each of the years ended December 31, 2020, 2019 and 2018.

Rebates

We are subject to rebates on sales made under governmental and managed-care pricing programs and commercial payor contracts in the U.S. The largest of these rebates is associated with sales covered by Medicaid. We participate in state

government-managed Medicaid programs as well as certain other qualifying federal and state government programs under the terms of which discounts and rebates are provided to participating government entities. We offer rebates and discounts to managed health care organizations and commercial payors in the U.S. In estimating our provisions for rebates, we consider relevant statutes with respect to governmental pricing programs and contractual sales terms with managed-care providers, commercial payors and group purchasing organizations. We estimate the rebate provision based on historical utilization rates, historical payment experience, new information regarding changes in regulations and guidelines that would impact the amount of the actual rebates, our expectations regarding future utilization rates and channel inventory data obtained from our major U.S. wholesalers in accordance with our inventory management agreements. Estimating these rebates is complex, in part due to the time delay between the date of sale and the actual settlement of the liability. We believe that the methodology we use to estimate rebates on product sales made under governmental and managed-care pricing programs is reasonable and appropriate given current facts and circumstances. However, estimates may vary from actual experience.

Rebates were $288.1 million, $153.9 million and $160.6 million, or 10.4%, 6.5% and 7.6% as a percentage of gross product sales, in 2020, 2019 and 2018, respectively. Rebates as a percentage of gross product sales increased in 2020 compared to 2019 primarily due to the entry into additional contracts with commercial payors. Rebates as a percentage of gross product sales decreased in 2019 compared to 2018 primarily due to a decrease in the Tricare per unit rebate amount. We expect that rebates will continue to significantly impact our reported net sales. Rebates as a percentage of gross product sales are expected to increase in 2021 compared to 2020, primarily due to commercial rebate rate increases.

Sales returns

For certain products, we allow customers to return product within a specified period before and after the applicable expiration date and issue credits which may be applied against existing or future invoices. We account for sales returns as a reduction in net revenue at the time a sale is recognized by establishing an accrual in an amount equal to the estimated value of products expected to be returned. The sales return accrual is estimated principally based on historical experience, the level and estimated shelf life of inventory in the distribution channel, our return policy and expected market events including generic competition.

Sales returns were $18.4 million, $5.5 million and $1.2 million, or 0.7%, 0.2% and 0.1% as a percentage of gross product sales in 2020, 2019 and 2018, respectively. The increase in sales returns in 2020 compared to 2019 was due to the commencement of a product returns policy for certain products in 2020. Sales returns as a percentage of gross product sales did not change materially in 2020 and 2019 compared to the immediately preceding years. Sales returns as a percentage of gross product sales are not expected to change materially in 2021 compared to 2020.

Chargebacks

We participate in chargeback programs with a number of entities, principally Federal Supply Schedule, Group Purchasing Organizations, and other public parties, under which pricing on products below wholesalers' list prices is provided to participating entities. These entities purchase product through wholesalers at the contract price and the wholesalers charge back to us the difference between their acquisition cost and the lower negotiated price. We record the difference as allowances against accounts receivable. We determine our estimate of the chargebacks provision primarily based on historical experience on a product and program basis, current contract prices under the chargeback programs and channel inventory data.

Chargebacks were $45.6 million, $41.9 million and $41.4 million, or 1.6%, 1.8% and 2.0% as a percentage of gross product sales in 2020, 2019 and 2018, respectively. Chargebacks as a percentage of gross product sales did not change materially in 2020 and 2019 compared to the immediately preceding years. We expect that chargebacks will continue to significantly impact our reported net product sales. Chargebacks as a percentage of gross product sales are not expected to change materially in 2021 compared to 2020.

Discounts and distributor fees

Discounts and distributor fees comprise prompt payment discounts, patient coupon programs and specialty distributor and wholesaler fees. We offer customers a cash discount on gross product sales as an incentive for prompt payment. We estimate provisions for prompt pay discounts based on contractual sales terms with customers and historical payment experience. To help patients afford our products, we have various programs to assist them, including patient assistance programs, a free product voucher program and co-pay coupon programs for certain products. We estimate provisions for these programs primarily based on expected program utilization, adjusted as necessary to reflect our actual experience on a product and program basis. Specialty distributor and wholesaler fees comprise fees for distribution of our products. We estimate provisions for distributor and wholesaler fees primarily based on sales volumes and contractual terms with our distributors.

Discounts and distributor fees were $69.3 million, $56.0 million and $43.0 million, or 2.5%, 2.4% and 2.0% as a percentage of gross product sales in 2020, 2019 and 2018, respectively. Discounts and distributor fees as a percentage of gross product sales did not change materially in 2020 and 2019 compared to the immediately preceding years. We expect that discounts and distributor fees as a whole will continue to significantly impact our reported net product sales. Discounts and

distributor fees as a percentage of gross product sales are expected to increase in 2021 compared to 2020, primarily due to wholesaler fee increases.

Goodwill and Intangible Assets

Goodwill

Goodwill represents the excess of the acquisition consideration over the fair value of assets acquired and liabilities assumed. We test goodwill for impairment annually in October and when events or changes in circumstances indicate that the carrying value may not be recoverable. We have determined that we operate in a single segment and have a single reporting unit associated with the development and commercialization of pharmaceutical products. In performing the annual impairment test, the fair value of the reporting unit is compared to its corresponding carrying value, including goodwill. If the carrying value exceeds the fair value of the reporting unit an impairment loss will be recognized for the amount by which the reporting unit's carrying amount exceeds its fair value, not to exceed the carrying amount of goodwill. We have determined the fair value of our single reporting unit to be equal to our market capitalization, as determined by our traded share price, plus a control premium. The control premium used was based on a review of such premiums identified in recent acquisitions of companies of similar size and in similar industries. We performed our annual goodwill impairment test in October 2020 and concluded that goodwill was not impaired as the fair value of the reporting unit significantly exceeded its carrying amount, including goodwill. As of December 31, 2020, we had $958.3 million of goodwill resulting from acquisitions accounted for as business combinations.

Intangible Assets

We have acquired a number of intangible assets, including intangible assets related to currently marketed products (developed technology) and intangible assets related to product candidates (IPR&D). When significant identifiable intangible assets are acquired, we engage an independent third party valuation firm to assist in determining the fair values of these assets as of the acquisition date. Discounted cash flow models are typically used in these valuations, which require the use of significant estimates and assumptions, including but not limited to:

- estimating the timing of and expected costs to complete the in-process projects;
- projecting regulatory approvals;
- estimating future cash flows from product sales resulting from completed products and in-process projects; and
- developing appropriate discount rates and probability rates by project.

We believe the fair values that we assign to the intangible assets acquired are based upon reasonable estimates and assumptions given available facts and circumstances as of the acquisition dates. No assurance can be given, however, that the underlying assumptions used to estimate expected cash flows will transpire as estimated. In addition, we are required to estimate the period of time over which to amortize the intangible assets, which requires significant judgment.

Finite-lived intangible assets consist primarily of purchased developed technology and are amortized on a straight-line basis over their estimated useful lives, which range from two to 18 years. The estimated useful lives associated with intangible assets are consistent with the estimated lives of the products and may be modified when circumstances warrant. Intangible assets with finite lives are reviewed for impairment whenever events or circumstances indicate that the carrying value of an asset may not be recoverable. Events giving rise to impairment are an inherent risk in the pharmaceutical industry and cannot be predicted. Factors that we consider in deciding when to perform an impairment review include significant under-performance of a product in relation to expectations, significant negative industry or economic trends, and significant changes or planned changes in our use of the assets. An impairment loss would be recognized when estimated undiscounted future cash flows expected to result from the use of the asset and its eventual disposition are less than its carrying amount. Estimating future cash flows related to an intangible asset involves estimates and assumptions. If our assumptions are not correct, there could be an impairment loss or, in the case of a change in the estimated useful life of the asset, a change in amortization expense.

IPR&D is not amortized but is tested for impairment annually or when events or circumstances indicate that the fair value may be below the carrying value of the asset. If the carrying value of the assets is not expected to be recovered, the assets are written down to their estimated fair values.

As of December 31, 2020, we had $2.2 billion of finite-lived intangible assets, which included $1.5 billion associated with the Vyxeos intangible asset which we acquired in the Celator Acquisition. As part of our annual impairment assessment, we reviewed the Vyxeos asset as of December 31, 2020 and determined the carrying value of the asset is recoverable. Cash flow models used in our assessment are based on our commercial experience to date and require the use of significant estimates, which include, but are not limited to, patient-related assumptions, including patient population and segmentation, patient growth and treatment rates, and long-range pricing expectations.

In 2020, we recorded an acquired in-process research and development, or IPR&D, asset impairment charge of $136.1 million following the decision to stop enrollment in our Phase 3 clinical study of defibrotide for the prevention of VOD due to a determination that the study is highly unlikely to reach one of its primary endpoints. We did not recognize an impairment charge related to our intangible assets in 2019. In relation to the sale of our rights to Prialt to TerSera in 2018, we adjusted the carrying value of the assets held for sale to fair value less costs to sell, which resulted in an impairment charge of $42.9 million in our consolidated statements of income in 2018, primarily related to the carrying balances of intangible assets.

Please refer to Note 9, Goodwill and Intangible Assets, of the Notes to Consolidated Financial Statements included elsewhere in this Annual Report on Form 10-K for further information about our intangible assets and the remaining useful lives of our finite-lived intangible assets as of December 31, 2020.

Income Taxes

We use the asset and liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are determined based on differences between the financial statement carrying amount and the tax basis of assets and liabilities and are measured using enacted tax rates and laws that will be in effect when the differences are expected to reverse. We provide a valuation allowance when it is more-likely-than-not that deferred tax assets will not be realized.

Our most significant tax jurisdictions are Ireland and the U.S. Significant estimates are required in determining our provision for income taxes. Some of these estimates are based on management's interpretations of jurisdiction-specific tax laws or regulations and the likelihood of settlement related to tax audit issues. Various internal and external factors may have favorable or unfavorable effects on our future effective income tax rate. These factors include, but are not limited to, changes in tax laws, regulations and/or rates, changing interpretations of existing tax laws or regulations, changes in estimates of prior years' items, the impact of accounting for share-based compensation, changes in our international organization, likelihood of settlement, and changes in overall levels of income before taxes.

Realization of our deferred tax assets is dependent upon the generation of future taxable income, the amount and timing of which are uncertain. In evaluating our ability to recover our deferred tax assets, we consider all available positive and negative evidence, including cumulative income in recent fiscal years, our forecast of future taxable income exclusive of certain reversing temporary differences and significant risks and uncertainties related to our business. In determining future taxable income, we are responsible for assumptions utilized including the amount of state, federal and international pre-tax operating income, the reversal of certain temporary differences and the implementation of feasible and prudent tax planning strategies. These assumptions require significant judgment about the forecasts of future taxable income in applicable tax jurisdictions, which are based on our commercial experience to date and are consistent with the plans and estimates that we are using to manage our underlying business.

We maintain a valuation allowance against certain other deferred tax assets where realizability is not certain. We periodically evaluate the likelihood of the realization of deferred tax assets and reduce the carrying amount of these deferred tax assets by a valuation allowance to the extent we believe a portion will not be realized. This determination depends on a variety of factors, some of which are subjective, including our recent cumulative earnings experience by taxing jurisdiction, expectations of future taxable income, carryforward periods available to us for tax reporting purposes, various income tax strategies and other relevant factors. If we determine that the deferred tax assets are not realizable in a future period, we would record material changes to income tax provision in that period.

We have also provided for unrecognized tax benefits that we believe are not more-likely-than-not to be sustained upon examination by tax authorities. The evaluation of unrecognized tax benefits is based on factors that include, but are not limited to, changes in tax law, the measurement of tax positions taken or expected to be taken in tax returns, the effective settlement of matters subject to audit, new audit activity and changes in facts or circumstances related to a tax position. We evaluate unrecognized tax benefits on a quarterly basis and adjust the level of the liability to reflect any subsequent changes in the relevant facts surrounding the uncertain positions. Our liabilities for unrecognized tax benefits can be relieved only if the contingency becomes legally extinguished through either payment to the taxing authority or the expiration of the statute of limitations, the recognition of the benefits associated with the position meet the more-likely-than-not threshold or the liability becomes effectively settled through the examination process. We consider matters to be effectively settled once the taxing authority has completed all of its required or expected examination procedures, including all appeals and administrative reviews. We also accrue for potential interest and penalties related to unrecognized tax benefits in income tax provision (benefit).

Recent Accounting Pronouncements

For a discussion of recent accounting pronouncements, please see Note 2, Summary of Significant Accounting Policies, of the Notes to Consolidated Financial Statements included in Part IV of this Annual Report on Form 10-K.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk. The primary objectives of our investment policy, in order of priority, are as follows: safety and preservation of principal and diversification of risk; liquidity of investments sufficient to meet cash flow requirements; and competitive yield. Although our investments are subject to market risk, our investment policy specifies credit quality standards for our investments and limits the amount of credit exposure from any single issue, issuer or certain types of investment. Our investment policy allows us to maintain a portfolio of cash equivalents and short-term investments in a variety of securities, including U.S. federal government and federal agency securities, corporate bonds or commercial paper issued by U.S. corporations, money market instruments, certain qualifying money market mutual funds, certain repurchase agreements, and tax-exempt obligations of states, agencies and municipalities in the U.S. Our cash equivalents and investments as of December 31, 2020 consisted of time deposits and money market funds which are not subject to significant interest rate risk.

We are exposed to risks associated with changes in interest rates in connection with our term loan borrowings. On June 7, 2018, we entered into the amended credit agreement to provide for a revolving credit facility of $1.6 billion, which replaced the existing revolving credit facility of $1.25 billion, and a new $667.7 million term loan facility, which replaced the $750.0 million term loan facility, of which $584.3 million principal amount was outstanding as of December 31, 2020. There were no borrowings outstanding under the revolving credit facility as of December 31, 2020. To achieve a desired mix of floating and fixed interest rates on our term loan, we entered into interest rate swap agreements in March 2017 that are designated as cash flow hedges. These derivative instruments are utilized for risk management purposes, and we do not use these derivatives for speculative trading purposes. The interest rate swap agreements have a notional amount of $300.0 million and are effective from March 3, 2017 through July 12, 2021 and convert the floating rate on a portion of our term loan to a fixed rate of 1.895%, plus the borrowing spread. The impact of a hypothetical increase or decrease in interest rates on the fair value of our interest rate swap contracts would be offset by a change in the value of the underlying liability. If interest rates were to increase or decrease by 100 basis points, interest expense for 2021 would increase or decrease by approximately $4.2 million, based on the unhedged portion of our outstanding variable rate borrowings.

In 2014, we completed a private placement of $575.0 million aggregate principal amount of the 2021 Notes, of which we have repurchased $356.2 million of the aggregate principal amount. In 2017, we completed a private placement of $575.0 million aggregate principal amount of the 2024 Notes. In June 2020, we completed a private offering of an aggregate $1.0 billion principal amount of the 2026 Notes. The 2021 Notes, 2024 Notes and 2026 Notes have fixed annual interest rates of 1.875%, 1.50% and 2.00%, respectively, and we, therefore, do not have economic interest rate exposure on the Exchangeable Senior Notes. However, the fair values of the Exchangeable Senior Notes are exposed to interest rate risk. Generally, the fair values of the Exchangeable Senior Notes will increase as interest rates fall and decrease as interest rates rise. The fair values of the Exchangeable Senior Notes are also affected by volatility in our ordinary share price. As of December 31, 2020, the fair values of the 2021 Notes, the 2024 Notes and the 2026 Notes were estimated to be approximately $224 million, $615 million and $1.3 billion, respectively.

In July 2017, the Financial Conduct Authority, the authority that regulates LIBOR, announced it intended to stop compelling banks to submit rates for the calculation of LIBOR after 2021. The Alternative Reference Rates Committee, or ARRC, in the U.S. has proposed that the Secured Overnight Financing Rate, or SOFR, is the rate that represents best practice as the alternative to the U.S. dollar, or USD, LIBOR for use in derivatives and other financial contracts that are currently indexed to USD LIBOR. ARRC has proposed a paced market transition plan to SOFR from USD LIBOR and organizations are currently working on industry wide and company specific transition plans as it relates to derivatives and cash markets exposed to USD LIBOR. We have certain financial contracts, including the amended credit agreement and our interest rate swaps, that are indexed to USD LIBOR and are monitoring this activity and evaluating the related risks.

Foreign Exchange Risk. We have significant operations in Europe as well as in the U.S. The functional currency of each foreign subsidiary is generally the local currency. We are exposed to foreign currency exchange risk as the functional currency financial statements of foreign subsidiaries are translated to U.S. dollars. The assets and liabilities of our foreign subsidiaries having a functional currency other than the U.S. dollar are translated into U.S. dollars at the exchange rate prevailing at the balance sheet date, and at the average exchange rate for the reporting period for revenue and expense accounts. The cumulative foreign currency translation adjustment is recorded as a component of accumulated other comprehensive loss in shareholders' equity. The reported results of our foreign subsidiaries will be influenced by their translation into U.S. dollars by currency movements against the U.S. dollar. Our primary currency translation exposure is related to our subsidiaries that have functional currencies denominated in the euro. A hypothetical 10% strengthening or weakening in the rates used to translate the results of

our foreign subsidiaries that have functional currencies denominated in euro would have increased or decreased net income for the year ended December 31, 2020 by approximately $21 million.

Transactional exposure arises where transactions occur in currencies other than the functional currency. Transactions in foreign currencies are recorded at the exchange rate prevailing at the date of the transaction. The resulting monetary assets and liabilities are translated into the appropriate functional currency at exchange rates prevailing at the balance sheet date and the resulting gains and losses are reported in foreign exchange gain (loss) in the consolidated statements of income. As of December 31, 2020, our primary exposure to transaction risk related to euro net monetary liabilities, including intercompany loans, held by subsidiaries with a U.S. dollar functional currency. We have entered into foreign exchange forward contracts to manage this currency risk. These foreign exchange forward contracts are not designated as hedges; gains and losses on these derivative instruments are designed to offset gains and losses on the underlying balance sheet exposures. As of December 31, 2020, we held foreign exchange forward contracts with notional amounts totaling $357.4 million. The net asset fair value of outstanding foreign exchange forward contracts was $11.1 million as of December 31, 2020. Based on our foreign currency exchange rate exposures as of December 31, 2020, a hypothetical 10% adverse fluctuation in exchange rates would decrease the fair value of our foreign exchange forward contracts by approximately $31 million as of December 31, 2020. The resulting loss on these forward contracts would be offset by a positive impact on the underlying monetary assets and liabilities.

Item 8. Financial Statements and Supplementary Data

Our consolidated financial statements as listed below are included in this Annual Report on Form 10-K as pages F-1 through F-44.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

Not applicable.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures. We have carried out an evaluation under the supervision and with the participation of management, including our principal executive officer and principal financial officer, of our disclosure controls and procedures (as defined in Rule 13a-15(e) of the Exchange Act) as of the end of the period covered by this Annual Report on Form 10-K. Based on their evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective as of December 31, 2020.

Limitations on the Effectiveness of Controls. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Because of inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues, if any, within an organization have been detected. Accordingly, our disclosure controls and procedures are designed to provide reasonable, not absolute, assurance that the objectives of our disclosure control system are met and, as set forth above, our principal executive officer and principal financial officer have concluded, based on their evaluation as of the end of the period covered by this report, that our disclosure controls and procedures were effective to provide reasonable assurance that the objectives of our disclosure control system were met.

Changes in Internal Control over Financial Reporting. During the quarter ended December 31, 2020, there were no changes to our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting. The following report is provided by management in respect of our internal control over financial reporting (as defined in Rule 13a-15(f) of the Exchange Act):

1. Our management is responsible for establishing and maintaining adequate internal control over financial reporting.
2. Our management used the Committee of Sponsoring Organizations of the Treadway Commission Internal Control - Integrated Framework (2013), or the COSO framework, to evaluate the effectiveness of internal control over financial reporting. Management believes that the COSO framework is a suitable framework for its evaluation of financial reporting because it is free from bias, permits reasonably consistent qualitative and quantitative measurements of our internal control over financial reporting, is sufficiently complete so that those relevant factors that would alter a conclusion about the effectiveness of our internal control over financial reporting are not omitted and is relevant to an evaluation of internal control over financial reporting.
3. Management has assessed the effectiveness of our internal control over financial reporting as of December 31, 2020 and has concluded that such internal control over financial reporting was effective. There were no material weaknesses in internal control over financial reporting identified by management.
4. KPMG, our independent registered public accounting firm, has audited the consolidated financial statements of Jazz Pharmaceuticals plc as of and for the year ended December 31, 2020, included herein, and has issued an audit report on our internal control over financial reporting, which is included below.

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
Jazz Pharmaceuticals plc:

Opinion on Internal Control Over Financial Reporting

We have audited Jazz Pharmaceuticals plc's and subsidiaries' (the 'Company') internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2020 and 2019, and the related consolidated statements of income, comprehensive income, shareholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes and financial statement schedule at Item 15(a)2 (collectively, the consolidated financial statements), and our report dated February 23, 2021 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG

Dublin, Ireland
February 23, 2021

Item 9B. Other Information

Not applicable.

PART III

Certain information required by Part III is omitted from this Annual Report on Form 10-K and incorporated by reference to our definitive proxy statement for our 2021 annual general meeting of shareholders, or our 2021 Proxy Statement, to be filed pursuant to Regulation 14A of the Securities Exchange Act of 1934, as amended, or Exchange Act. If our 2021 Proxy Statement is not filed within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K, the omitted information will be included in an amendment to this Annual Report on Form 10-K filed not later than the end of such 120-day period.

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this item is to be included in our 2021 Proxy Statement as follows:

- The information relating to our directors and nominees for director is to be included in the section entitled "Proposal 1—Election of Directors;"
- The information relating to our executive officers is to be included in the section entitled "Executive Officers;"
- The information relating to our audit committee, audit committee financial expert and procedures by which shareholders may recommend nominees to our board of directors is to be included in the section entitled "Corporate Governance and Board Matters;" and
- If required, the information regarding compliance with Section 16(a) of the Exchange Act is to be included in the section entitled "Delinquent Section 16(a) Reports."

Such information is incorporated herein by reference to our 2021 Proxy Statement, provided that if the 2021 Proxy Statement is not filed within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K, the omitted information will be included in an amendment to this Annual Report on Form 10-K filed not later than the end of such 120-day period.

Our Code of Conduct applies to all of our employees, directors and officers, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, and those of our subsidiaries. The Code of Conduct is available on our website at *www.jazzpharmaceuticals.com* under the section entitled "About" under "Corporate Ethics." We intend to satisfy the disclosure requirements under Item 5.05 of the SEC Form 8-K regarding an amendment to, or waiver from, a provision of our Code of Conduct by posting such information on our website at the website address and location specified above.

Item 11. Executive Compensation

The information required by this item is to be included in our 2021 Proxy Statement under the sections entitled "Executive Compensation," "Director Compensation," "Corporate Governance and Board Matters—Compensation Committee Interlocks and Insider Participation" and "Corporate Governance and Board Matters—Compensation Committee Report" and is incorporated herein by reference, provided that if the 2021 Proxy Statement is not filed within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K, the omitted information will be included in an amendment to this Annual Report on Form 10-K filed not later than the end of such 120-day period.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this item with respect to equity compensation plans is to be included in our 2021 Proxy Statement under the section entitled "Equity Compensation Plan Information" and the information required by this item with respect to security ownership of certain beneficial owners and management is to be included in our 2021 Proxy Statement under the section entitled "Security Ownership of Certain Beneficial Owners and Management" and in each case is incorporated herein by reference, provided that if the 2021 Proxy Statement is not filed within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K, the omitted information will be included in an amendment to this Annual Report on Form 10-K filed not later than the end of such 120-day period.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item is to be included in our 2021 Proxy Statement under the sections entitled "Certain Relationships and Related Party Transactions" and "Corporate Governance and Board Matters—Independence of the Board of Directors" and is incorporated herein by reference, provided that if the 2021 Proxy Statement is not filed within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K, the omitted information will be included in an amendment to this Annual Report on Form 10-K filed not later than the end of such 120-day period.

Item 14. Principal Accountant Fees and Services

The information required by this item is to be included in our 2021 Proxy Statement under the section entitled "Proposal 2—On a Non-Binding Advisory Basis, Ratify Appointment of Independent Registered Accounting Firm and, On a Binding Basis, Authorize the Board of Directors, Acting Through the Audit Committee, to Determine the Independent Auditors' Remuneration" and is incorporated herein by reference, provided that if the 2021 Proxy Statement is not filed within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K, the omitted information will be included in an amendment to this Annual Report on Form 10-K filed not later than the end of such 120-day period.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) The following documents are filed as part of this Annual Report on Form 10-K:

1. Index to Financial Statements:

See Index to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K.

2. Financial Statement Schedules:

The following financial statement schedule of Jazz Pharmaceuticals plc is filed as part of this Annual Report on Form 10-K on page F-44 and should be read in conjunction with the consolidated financial statements of Jazz Pharmaceuticals plc.

Schedule II: Valuation and Qualifying Accounts

All other schedules are omitted because they are not applicable, not required under the instructions, or the requested information is shown in the consolidated financial statements or related notes thereto.

(b) Exhibits—The following exhibits are included herein or incorporated herein by reference:

Exhibit Number	Description of Document
2.1	Agreement and Plan of Merger and Reorganization, dated as of September 19, 2011, by and among Azur Pharma Limited (now Jazz Pharmaceuticals plc), Jaguar Merger Sub Inc., Jazz Pharmaceuticals, Inc. and Seamus Mulligan, solely in his capacity as the Indemnitors' Representative (incorporated herein by reference to Exhibit 2.1 in Jazz Pharmaceuticals, Inc.'s Current Report on Form 8-K (File No. 001-33500) filed with the SEC on September 19, 2011).
2.2	Letter Agreement, dated as of January 17, 2012, by and among Jazz Pharmaceuticals plc, Jaguar Merger Sub Inc., Jazz Pharmaceuticals, Inc. and Seamus Mulligan, solely in his capacity as the Indemnitors' Representative (incorporated herein by reference to Exhibit 2.2 in Jazz Pharmaceuticals plc's Current Report on Form 8-K (File No. 001-33500), as filed with the SEC on January 18, 2012).
2.3	Agreement and Plan of Merger, dated as of April 26, 2012, by and among Jazz Pharmaceuticals plc, Jewel Merger Sub Inc., EUSA Pharma Inc., and Essex Woodlands Health Ventures, Inc., Mayflower L.P., and Bryan Morton, in their capacity as the representatives of the equity holders of EUSA Pharma Inc. (incorporated herein by reference to Exhibit 2.1 in Jazz Pharmaceuticals plc's Current Report on Form 8-K (File No. 001-33500), as filed with the SEC on April 27, 2012).
2.4	Assignment, dated as of June 11, 2012, by and among Jazz Pharmaceuticals plc and Jazz Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 2.1B in Jazz Pharmaceuticals plc's Current Report on Form 8-K (File No. 001-33500), as filed with the SEC on June 12, 2012).
2.5	Tender Offer Agreement, dated December 19, 2013, by and among Jazz Pharmaceuticals Public Limited Company, Jazz Pharmaceuticals Italy S.r.l. and Gentium S.p.A. (incorporated herein by reference to Exhibit 2.1 in Jazz Pharmaceuticals plc's Current Report on Form 8-K/A (File No. 001-33500), as filed with the SEC on December 20, 2013).

2.6†	Asset Purchase Agreement, dated January 13, 2014, by and among Jazz Pharmaceuticals International III Limited, Aerial BioPharma, LLC and Jazz Pharmaceuticals plc (incorporated herein by reference to Exhibit 2.1 in Jazz Pharmaceuticals plc's Current Report on Form 8-K (File No. 001-33500), as filed with the SEC on January 13, 2014).
2.7†	Assignment Agreement, dated July 1, 2014, by and among Jazz Pharmaceuticals International II Limited, Sigma-Tau Pharmaceuticals, Inc., Jazz Pharmaceuticals plc and Gentium S.p.A. (incorporated herein by reference to Exhibit 2.1 in Jazz Pharmaceuticals plc's Current Report on Form 8-K (File No. 001-33500), as filed with the SEC on August 5, 2014).
2.8	Amended and Restated Agreement for the Acquisition of the Topaz Portfolio Business of Jazz Pharmaceuticals plc, dated March 20, 2015, between Jazz Pharmaceuticals plc and Essex Bidco Limited (incorporated herein by reference to Exhibit 2.1 in Jazz Pharmaceuticals plc's Current Report on Form 8-K (File No. 001-33500), as filed with the SEC on March 23, 2015).
2.9	Agreement and Plan of Merger, dated as of May 27, 2016, by and among Jazz Pharmaceuticals plc, Plex Merger Sub, Inc., and Celator Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 2.1 in Jazz Pharmaceuticals plc's Current Report on Form 8-K (File No. 001-33500), as filed with the SEC on May 31, 2016).
2.10‡	Transaction Agreement, dated as of February 3, 2021, by and among Jazz Pharmaceuticals UK Holdings Limited, Jazz Pharmaceuticals Public Limited Company and GW Pharmaceuticals PLC (incorporated herein by reference to Exhibit 2.1 in Jazz Pharmaceuticals plc's Current Report on Form 8-K (File No. 001-33500), as filed with the SEC on February 4, 2021).
3.1	Amended and Restated Memorandum and Articles of Association of Jazz Pharmaceuticals plc, as amended on August 4, 2016 (incorporated herein by reference to Exhibit 3.1 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2016, as filed with the SEC on August 9, 2016).
4.1	Reference is made to Exhibit 3.1.
4.3A	Investor Rights Agreement, dated July 7, 2009 by and between Jazz Pharmaceuticals, Inc. and the other parties named therein (incorporated herein by reference to Exhibit 10.88 in Jazz Pharmaceuticals, Inc.'s Current Report on Form 8-K (File No. 001-33500), as filed with the SEC on July 7, 2009).
4.3B	Assignment, Assumption and Amendment Agreement, dated as of January 18, 2012, by and among Jazz Pharmaceuticals, Inc., Jazz Pharmaceuticals plc and the other parties named therein (incorporated herein by reference to Exhibit 4.7B in the Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2011, as filed by Jazz Pharmaceuticals plc on behalf of and as successor to Jazz Pharmaceuticals, Inc. with the SEC on February 28, 2012).
4.4A	Indenture, dated as of August 13, 2014, by and among Jazz Pharmaceuticals plc, Jazz Investments I Limited and U.S. Bank National Association (incorporated herein by reference to Exhibit 4.1 in Jazz Pharmaceuticals plc's Current Report on Form 8-K (File No. 001-33500), as filed with the SEC on August 13, 2014).
4.4B	Form of 1.875% Exchangeable Senior Note due 2021 (incorporated herein by reference to Exhibit 4.2 in Jazz Pharmaceuticals plc's Current Report on Form 8-K (File No. 001-33500), as filed with the SEC on August 13, 2014).
4.5A	Indenture, dated as of August 23, 2017, among Jazz Pharmaceuticals Public Limited Company, Jazz Investments I Limited and U.S. Bank National Association (incorporated herein by reference to Exhibit 4.1 in Jazz Pharmaceuticals plc's Current Report on Form 8-K (File No. 001-33500), as filed with the SEC on August 23, 2017).
4.5B	Form of 1.50% Exchangeable Senior Note due 2024 (incorporated herein by reference to Exhibit 4.1 in Jazz Pharmaceuticals plc's Current Report on Form 8-K (File No. 001-33500), as filed with the SEC on August 23, 2017).
4.6A	Indenture, dated as of June 11, 2020 among Jazz Pharmaceuticals Public Limited Company, Jazz Investments I Limited and U.S. Bank National Association (incorporated herein by reference to Exhibit 4.1 in Jazz Pharmaceuticals plc's Current Report on Form 8-K (File No. 001-033500), as filed with the SEC on June 11, 2020).
4.6B	Form of 2.000% Exchangeable Senior Note due 2026 (incorporated herein by reference to Exhibit 4.2 in Jazz Pharmaceuticals plc's Current Report on Form 8-K (File No. 001-033500), as filed with the SEC on June 11, 2020).
4.7	Description of Share Capital.
10.1	Settlement Agreement, dated as of April 5, 2017, by and between Jazz Pharmaceuticals, Inc. and Jazz Pharmaceuticals Ireland Limited, and Roxane Laboratories, Inc., West-Ward Pharmaceuticals Corp., Eurohealth (USA), Inc., and Hikma Pharmaceuticals PLC (incorporated herein by reference to Exhibit 10.1 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2017, as filed with the SEC on August 8, 2017).

10.2	Settlement Agreement, dated as of April 4, 2019, by and among United States of America, acting through the United States Department of Justice and on behalf of the Office of Inspector General of the Department of Health and Human Services, Jazz Pharmaceuticals plc, Jazz Pharmaceuticals, Inc., and Jazz Pharmaceuticals Ireland Ltd. (incorporated herein by reference to Exhibit 10.7 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended March 31, 2019, as filed with the SEC on May 7, 2019).
10.3	Corporate Integrity Agreement, dated as of April 3, 2019, by and between Jazz Pharmaceuticals plc and the Office of Inspector General of the United States Department of Health and Human Services (incorporated herein by reference to Exhibit 10.6 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended March 31, 2019, as filed with the SEC on May 7, 2019).
10.4†	Supply Agreement, dated as of April 1, 2010, by and between Jazz Pharmaceuticals, Inc. and Siegfried (USA) Inc. (incorporated herein by reference to Exhibit 10.54 in Jazz Pharmaceuticals, Inc.'s Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended March 31, 2010, as filed with the SEC on May 6, 2010).
10.5†	Royalty Bearing Licence Agreement and Supply Agreement Re Erwinia-Derived Asparaginase, dated July 22, 2005, between Public Health England (formerly Health Protection Agency) and EUSA Pharma SAS (formerly OPi, S.A.), as amended on each of December 22, 2009, March 23, 2012 and August 8, 2012 (incorporated herein by reference to Exhibit 10.11 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q/A (File No. 001-33500) for the period ended June 30, 2012, as filed with the SEC on August 9, 2012).
10.6	Novation Agreement relating to Royalty Bearing Licence Agreement and Supply Agreement re Erwinia-Derived Asparaginase, dated as of May 13, 2015, by and among EUSA Pharma SAS, the Secretary of State for Health acting through Public Health England and Porton Biopharma Limited (incorporated herein by reference to Exhibit 10.3 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2015, as filed with the SEC on August 5, 2015).
10.7	Contract Variation Agreement by and between Porton Biopharma Limited and Jazz Pharmaceuticals France SAS, dated as of December 20, 2018 (incorporated herein by reference to Exhibit 10.5 in Jazz Pharmaceuticals plc's Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2018, as filed with the SEC on February 26, 2019).
10.8‡	Master Manufacturing Services Agreement, dated as of October 1, 2015, by and between Jazz Pharmaceuticals Ireland Limited and Patheon Pharmaceuticals Inc.
10.9A†	Clinical and Commercial Manufacturing and Supply Agreement, dated as of December 22, 2010, between Celator Pharmaceuticals, Inc. and Baxter Oncology GmbH (incorporated herein by reference to Exhibit 10.8 in Jazz Pharmaceuticals plc's Annual Report on Form 10-K (File No. 001-33500) for the year ended December 31, 2017, as filed with the SEC on February 27, 2018).
10.9B†	Amendment No. 1 Clinical and Commercial Manufacturing and Supply Agreement, dated as of January 18, 2018, by and between Jazz Pharmaceuticals Ireland Limited and Baxter Oncology GmbH (incorporated herein by reference to Exhibit 10.3 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended March 31, 2018, as filed with the SEC on May 8, 2018).
10.10‡	Contract Manufacturing Agreement, dated as of January 20, 2020, by and between Jazz Pharmaceuticals Ireland Limited and Siegfried AG (incorporated herein by reference to Exhibit 10.10 in Jazz Pharmaceuticals plc's Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2019, as filed with the SEC on February 25, 2020).
10.11‡	Pharmacy Master Services Agreement, dated as of July 1, 2020, by and between Jazz Pharmaceuticals, Inc. and Express Scripts Specialty Distribution Services, Inc. (incorporated herein by reference to Exhibit 10.2 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2020, as filed with the SEC on August 4, 2020).
10.12‡	Amended and Restated License Agreement, dated as of October 14, 2020, between Pharma Mar, S.A. and Jazz Pharmaceuticals Ireland Limited.
10.13A	Credit Agreement, dated as of June 18, 2015, among Jazz Pharmaceuticals plc, Jazz Securities Limited, Jazz Pharmaceuticals, Inc., Jazz Financing I Limited, Jazz Pharmaceuticals Ireland Limited, the lenders party thereto and Bank of America, N.A., as Collateral Agent, Administrative Agent, Swing Line Lender and L/C Issuer (incorporated herein by reference to Exhibit 10.1 in Jazz Pharmaceuticals plc's Current Report on Form 8-K (File No. 001-33500), as filed with the SEC on June 18, 2015).

10.13B	Amendment No. 1, dated as of July 12, 2016, to Credit Agreement, dated as of June 18, 2015, among Jazz Pharmaceuticals plc, Jazz Securities Limited, Jazz Pharmaceuticals, Inc., Jazz Financing I Limited, Jazz Pharmaceuticals Ireland Limited, the lenders party thereto and Bank of America, N.A., as Collateral Agent, Administrative Agent, Swing Line Lender and L/C Issuer (incorporated herein by reference to Exhibit 10.1 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2016, as filed with the SEC on August 9, 2016).
10.13C	Amendment No. 2, dated as of June 7, 2018, to Credit Agreement, dated as of June 18, 2015 (as previously amended by Amendment No. 1, dated as of July 12, 2016), among Jazz Pharmaceuticals plc, Jazz Securities Designated Activity Company, Jazz Pharmaceuticals, Inc., Jazz Financing I Designated Activity Company, Jazz Pharmaceuticals Ireland Limited, the lenders party thereto and Bank of America, N.A., as Collateral Agent, Administrative Agent, Swing Line Lender and L/C Issuer (incorporated herein by reference to Exhibit 10.4 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2018, as filed with the SEC on August 7, 2018).
10.14A	Commercial Lease, dated as of June 2, 2004, by and between Jazz Pharmaceuticals, Inc. and The Board of Trustees of the Leland Stanford Junior University (incorporated herein by reference to Exhibit 10.52 in Jazz Pharmaceuticals, Inc.'s registration statement on Form S-1, as amended (File No. 333-141164), as filed with the SEC on March 27, 2007).
10.14B	First Amendment of Lease, dated June 1, 2009, by and between Jazz Pharmaceuticals, Inc. and Wheatley-Fields, LLC, successor in interest to The Board of Trustees of the Leland Stanford Junior University (incorporated herein by reference to Exhibit 10.86 in Jazz Pharmaceuticals, Inc.'s Current Report on Form 8-K (File No. 001-33500), as filed with the SEC on June 4, 2009).
10.14C	Second Amendment of Lease, dated February 28, 2012, by and between Jazz Pharmaceuticals, Inc. and Wheatley-Fields, LLC, successor in interest to The Board of Trustees of the Leland Stanford Junior University (incorporated herein by reference to Exhibit 10.31 in the Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2011, as filed by Jazz Pharmaceuticals plc on behalf of and as successor to Jazz Pharmaceuticals, Inc. with the SEC on February 28, 2012).
10.15	Lease, dated May 8, 2012, by and between John Ronan and Castle Cove Property Developments Limited and Jazz Pharmaceuticals plc (incorporated herein by reference to Exhibit 10.2 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2012, as filed with the SEC on August 7, 2012).
10.16A	Commercial Lease, dated as of January 7, 2015, by and between The Board of Trustees of the Leland Stanford Junior University and Jazz Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.10 in Jazz Pharmaceuticals plc's Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2014, as filed with the SEC on February 24, 2015).
10.16B	First Amendment, dated as of January 29, 2018, to Commercial Lease, dated as of January 7, 2015, by and between The Board of Trustees of the Leland Stanford Junior University and Jazz Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.5 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2018, as filed with the SEC on August 7, 2018).
10.16C	Second Amendment, dated as of July 26, 2018, to Commercial Lease, dated as of January 7, 2015, by and between The Board of Trustees of the Leland Stanford Junior University and Jazz Pharmaceuticals, Inc., as previously amended by the First Amendment to Lease, dated as of January 29, 2018 (incorporated herein by reference to Exhibit 10.1 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2018, as filed with the SEC on November 6, 2018).
10.17A	Commercial Lease, dated as of September 22, 2017, by and between Jazz Pharmaceuticals, Inc. and The Board of Trustees of the Leland Stanford Junior University (incorporated herein by reference to Exhibit 10.2 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2017, as filed with the SEC on November 7, 2017).
10.17B	First Amendment, dated as of January 29, 2018, to Commercial Lease, dated as of September 22, 2017, by and between The Board of Trustees of the Leland Stanford Junior University and Jazz Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.6 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2018, as filed with the SEC on August 7, 2018).
10.18+	Form of Indemnification Agreement between Jazz Pharmaceuticals plc and its officers and directors (incorporated herein by reference to Exhibit 10.1 in Jazz Pharmaceuticals plc's Current Report on Form 8-K (File No. 001-33500), as filed with the SEC on January 18, 2012).
10.19A+	Offer Letter from Jazz Pharmaceuticals, Inc. to Michael Miller (incorporated herein by reference to Exhibit 10.2 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2014, as filed with the SEC on November 4, 2014).

10.19B+	Transition and Termination Agreement, dated as of November 2, 2019, by and between Jazz Pharmaceuticals, Inc. and Mike Miller (incorporated herein by reference to Exhibit 10.6 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2019, as filed with the SEC on November 5, 2019).
10.19C+	Amendment to Transition and Termination Agreement, dated as of March 31, 2020, by and between Jazz Pharmaceuticals, Inc. and Michael Miller (incorporated herein by reference to Exhibit 10.3 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended March 31, 2020, as filed with the SEC on May 5, 2020).
10.20+	Offer Letter from Jazz Pharmaceuticals, Inc. to Daniel N. Swisher, Jr. (incorporated herein by reference to Exhibit 10.21 in Jazz Pharmaceuticals plc's Annual Report on Form 10-K (File No. 001-33500) for the year ended December 31, 2017, as filed with the SEC on February 27, 2018).
10.21+	Offer Letter from Jazz Pharmaceuticals, Inc. to Robert Iannone dated as of April 11, 2019 (incorporated herein by reference to Exhibit 10.4 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2019, as filed with the SEC on August 6, 2019).
10.22A+	Employment Agreement, dated as of May 16, 2012 by and between Patricia Carr and Jazz Pharmaceuticals plc (incorporated herein by reference to Exhibit 10.1 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2019, as filed with the SEC on November 5, 2019).
10.22B+	Change in Control Severance Terms, dated as of May 15, 2016, by and between Jazz Pharmaceuticals Ireland Ltd. and Patricia Carr (incorporated herein by reference to Exhibit 10.2 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2019, as filed with the SEC on November 5, 2019).
10.22C+	Change in Control Stock Award Acceleration Agreement, dated as of May 15, 2016 by and between Jazz Pharmaceuticals plc and Patricia Carr (incorporated herein by reference to Exhibit 10.3 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2019, as filed with the SEC on November 5, 2019).
10.23+	Offer Letter, dated as of July 5, 2019 by and between Jazz Pharmaceuticals, Inc. and Neena M. Patil (incorporated herein by reference to Exhibit 10.4 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2019, as filed with the SEC on November 5, 2019).
10.24A+	Employment Contract, dated as of February 22, 2013, by and between Jazz Pharmaceuticals Ireland Limited and Finbar Larkin (incorporated herein by reference to Exhibit 10.27 in Jazz Pharmaceuticals plc's Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2019, as filed with the SEC on February 25, 2020).
10.24B+	Amendment to Employment Contract, dated as of February 26, 2020, by and between Jazz Pharmaceuticals Ireland Limited and Finbar Larkin ((incorporated herein by reference to Exhibit 10.2 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended March 31, 2020, as filed with the SEC on May 5, 2020).
10.25A+	Employment Contract, dated as of December 14, 2019, by and between Jazz Pharmaceuticals UK Limited and Samantha Pearce (incorporated herein by reference to Exhibit 10.28A in Jazz Pharmaceuticals plc's Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2019, as filed with the SEC on February 25, 2020).
10.25B+	Amendment to Employment Contract, dated as of April 21, 2020, by and between Jazz Pharmaceuticals UK Limited and Samantha Pearce (incorporated herein by reference to Exhibit 10.4 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended March 31, 2020, as filed with the SEC on May 5, 2020).
10.25C+	Equity Award Letter, dated as of December 9, 2019, by and between Jazz Pharmaceuticals UK Limited and Samantha Pearce (incorporated herein by reference to Exhibit 10.28B in Jazz Pharmaceuticals plc's Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2019, as filed with the SEC on February 25, 2020).
10.26+	Offer Letter, dated as of February 23, 2020, by and between Jazz Pharmaceuticals, Inc. and Renée Galá (incorporated herein by reference to Exhibit 10.1 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended March 31, 2020, as filed with the SEC on May 5, 2020).
10.27+	Offer Letter, dated as of May 2, 2020, by and between Jazz Pharmaceuticals, Inc. and Kim Sablich (incorporated herein by reference to Exhibit 10.1 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2020, as filed with the SEC on August 4, 2020).

10.28A+	Jazz Pharmaceuticals plc 2007 Equity Incentive Plan (incorporated herein by reference to Exhibit 99.3 in Jazz Pharmaceuticals plc's registration statement on Form S-8 (File No. 333-179075), as filed with the SEC on January 18, 2012).
10.28B+	Jazz Pharmaceuticals plc 2007 Equity Incentive Plan Sub-Plan Governing Awards to Participants in the Republic of Ireland (incorporated herein by reference to Exhibit 10.3B in the Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2011, as filed by Jazz Pharmaceuticals plc on behalf of and as successor to Jazz Pharmaceuticals Inc. with the SEC on February 28, 2012).
10.28C+	Form of Notice of Grant of Stock Options and Form of Option Agreement (U.S.) under the Jazz Pharmaceuticals plc 2007 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.27C in Jazz Pharmaceuticals plc's Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2012, as filed with the SEC on February 26, 2013).
10.28D+	Form of Notice of Grant of Stock Options and Form of Option Agreement (Irish) under Jazz Pharmaceuticals plc 2007 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.27D in Jazz Pharmaceuticals plc's Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2012, as filed with the SEC on February 26, 2013).
10.28E+	Form of Restricted Stock Unit Grant Notice and Form of Restricted Stock Unit Award Agreement (U.S.) under the Jazz Pharmaceuticals plc 2007 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.27E in Jazz Pharmaceuticals plc's Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2012, as filed with the SEC on February 26, 2013).
10.28F+	Form of Restricted Stock Unit Grant Notice and Form of Restricted Stock Unit Award Agreement (Irish) under the Jazz Pharmaceuticals plc 2007 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.27F in Jazz Pharmaceuticals plc's Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2012, as filed with the SEC on February 26, 2013).
10.28G+	Jazz Pharmaceuticals plc 2007 Equity Incentive Plan - Form of Non-U.S. Option Grant Notice and Form of Non-U.S. Option Agreement (approved July 31, 2013) (incorporated herein by reference to Exhibit 10.1 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2013, as filed with the SEC on November 5, 2013).
10.28H+	Jazz Pharmaceuticals plc 2007 Equity Incentive Plan - Form of Non-U.S. Restricted Stock Unit Award Grant Notice and Form of Non-U.S. Restricted Stock Unit Award Agreement (approved July 31, 2013) (incorporated herein by reference to Exhibit 10.2 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2013, as filed with the SEC on November 5, 2013).
10.29A+	Jazz Pharmaceuticals plc 2011 Equity Incentive Plan (incorporated herein by reference to Exhibit 99.1 in Jazz Pharmaceuticals plc's registration statement on Form S-8 (File No. 333-179075), as filed with the SEC on January 18, 2012).
10.29B+	Jazz Pharmaceuticals plc 2011 Equity Incentive Plan Sub-Plan Governing Awards to Participants in the Republic of Ireland (incorporated herein by reference to Exhibit 10.39B in the Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2011, as filed by Jazz Pharmaceuticals plc on behalf of and as successor to Jazz Pharmaceuticals Inc. with the SEC on February 28, 2012).
10.29C+	Form of Stock Option Grant Notice and Form of Option Agreement (U.S.) under the Jazz Pharmaceuticals plc 2011 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.7 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2012, as filed with the SEC on August 7, 2012).
10.29D+	Form of Stock Option Grant Notice and Form of Option Agreement (Irish) under the Jazz Pharmaceuticals plc 2011 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.8 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2012, as filed with the SEC on August 7, 2012).
10.29E+	Form of Non-U.S. Option Grant Notice and Form of Non-U.S. Option Agreement under the Jazz Pharmaceuticals plc 2011 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.28E in Jazz Pharmaceuticals plc's Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2012, as filed with the SEC on February 26, 2013).
10.29F+	Form of Restricted Stock Unit Grant Notice and Form of Restricted Stock Unit Award Agreement (U.S.) under the Jazz Pharmaceuticals plc 2011 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.9 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2012, as filed with the SEC on August 7, 2012).

10.29G+	Form of Restricted Stock Unit Grant Notice and Form of Restricted Stock Unit Award Agreement (Irish) under the Jazz Pharmaceuticals plc 2011 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.10 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2012, as filed with the SEC on August 7, 2012).
10.29H+	Form of Non-U.S. Restricted Stock Unit Grant Notice and Form of Non-U.S. Restricted Stock Unit Agreement under the Jazz Pharmaceuticals plc 2011 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.28H in Jazz Pharmaceuticals plc's Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2012, as filed with the SEC on February 26, 2013).
10.29I+	Jazz Pharmaceuticals plc 2011 Equity Incentive Plan - Form of U.S. Option Grant Notice and Form of U.S. Option Agreement (approved July 31, 2013) (incorporated herein by reference to Exhibit 10.3 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2013, as filed with the SEC on November 5, 2013).
10.29J+	Jazz Pharmaceuticals plc 2011 Equity Incentive Plan - Form of U.S. Restricted Stock Unit Award Grant Notice and Form of U.S. Restricted Stock Unit Award Agreement (approved July 31, 2013) (incorporated herein by reference to Exhibit 10.4 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2013, as filed with the SEC on November 5, 2013).
10.29K+	Jazz Pharmaceuticals plc 2011 Equity Incentive Plan - Form of Non-U.S. Option Grant Notice and Form of Non-U.S. Option Agreement (approved July 31, 2013) (incorporated herein by reference to Exhibit 10.5 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2013, as filed with the SEC on November 5, 2013).
10.29L+	Jazz Pharmaceuticals plc 2011 Equity Incentive Plan - Form of Non-U.S. Restricted Stock Unit Award Grant Notice and Form of Non-U.S. Restricted Stock Unit Award Agreement (approved July 31, 2013) (incorporated herein by reference to Exhibit 10.6 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2013, as filed with the SEC on November 5, 2013).
10.29M+	Jazz Pharmaceuticals plc 2011 Equity Incentive Plan - Form of Non-U.S. Option Grant Notice and Form of Non-U.S. Option Agreement (incorporated herein by reference to Exhibit 10.1 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended March 31, 2016, as filed with the SEC on May 10, 2016).
10.29N+	Jazz Pharmaceuticals plc 2011 Equity Incentive Plan - Form of Non-U.S. Restricted Stock Unit Grant Notice and Form of Non-U.S. Restricted Stock Unit Award Agreement (incorporated herein by reference to Exhibit 10.2 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended March 31, 2016, as filed with the SEC on May 10, 2016).
10.29O+	Amended and Restated 2011 Equity Incentive Plan (approved August 4, 2016) (incorporated herein by reference to Exhibit 10.8 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2016, as filed with the SEC on August 9, 2016).
10.29P+	Amended and Restated 2011 Equity Incentive Plan (approved November 3, 2016) (incorporated herein by reference to Exhibit 10.2 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2016, as filed with the SEC on November 8, 2016).
10.29Q+	Form of U.S. Restricted Stock Unit Award Grant Notice and Form of U.S. Restricted Stock Unit Award Agreement under the Jazz Pharmaceuticals plc Amended and Restated 2011 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.6 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2016, as filed with the SEC on November 8, 2016).
10.29R+	Form of U.S. Option Grant Notice and Form of U.S. Option Agreement under the Jazz Pharmaceuticals plc Amended and Restated 2011 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.7 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2016, as filed with the SEC on November 8, 2016).
10.29S+	Form of Non-U.S. Restricted Stock Unit Award Grant Notice and Form of Non-U.S. Restricted Stock Unit Award Agreement under the Jazz Pharmaceuticals plc Amended and Restated 2011 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.8 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2016, as filed with the SEC on November 8, 2016).
10.29T+	Form of Non-U.S. Option Grant Notice and Non-U.S. Option Agreement under the Jazz Pharmaceuticals plc Amended and Restated 2011 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.2 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2018, as filed with the SEC on August 7, 2018).

10.29U+	Form of Non-U.S. Restricted Stock Unit Award Grant Notice and Non-U.S. Restricted Stock Unit Award Agreement under the Jazz Pharmaceuticals plc Amended and Restated 2011 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.3 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2018, as filed with the SEC on August 7, 2018).
10.29V+	Form of Non-U.S. Option Grant Notice and Non-U.S. Option Agreement under the Jazz Pharmaceuticals plc 2011 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.4 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended March 31, 2019, as filed with the SEC on May 7, 2019).
10.29W+	Form of Non-U.S. Restricted Stock Unit Award Grant Notice and Non-U.S. Restricted Stock Unit Award Agreement under the Jazz Pharmaceuticals plc 2011 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.5 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended March 31, 2019, as filed with the SEC on May 7, 2019).
10.30+	Jazz Pharmaceuticals plc Amended and Restated Directors Deferred Compensation Plan (incorporated herein by reference to Exhibit 99.6 in Jazz Pharmaceuticals plc's registration statement on Form S-8 (File No. 333-179075), as filed with the SEC on January 18, 2012).
10.31A+	Jazz Pharmaceuticals plc Amended and Restated 2007 Non-Employee Directors Stock Option Plan (incorporated herein by reference to Exhibit 99.4 in Jazz Pharmaceuticals plc's registration statement on Form S-8 (File No. 333-179075), as filed with the SEC on January 18, 2012).
10.31B+	Form of Non-U.S. Option Grant Notice and Form of Non-U.S. Option Agreement under the Jazz Pharmaceuticals plc Amended and Restated 2007 Non-Employee Directors Stock Option Plan (incorporated herein by reference to Exhibit 10.30B in Jazz Pharmaceuticals plc's Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2012, as filed with the SEC on February 26, 2013).
10.31C+	Jazz Pharmaceuticals plc Amended and Restated 2007 Non-Employee Directors Stock Option Plan - Form of Non-U.S. Option Grant Notice and Form of Non-U.S. Option Agreement (approved August 1, 2013) (incorporated herein by reference to Exhibit 10.7 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2013, as filed with the SEC on November 5, 2013).
10.31D+	Amended and Restated 2007 Non-Employee Directors Stock Award Plan (approved August 4, 2016) (incorporated herein by reference to Exhibit 10.9 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2016, as filed with the SEC on August 9, 2016).
10.31E+	Amended and Restated 2007 Non-Employee Directors Stock Award Plan (approved November 3, 2016) (incorporated herein by reference to Exhibit 10.3 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2016, as filed with the SEC on November 8, 2016).
10.31F+	Amended and Restated 2007 Non-Employee Directors Stock Award Plan (approved July 30, 2020) (incorporated herein by reference to Exhibit 10.3 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2020, as filed with the SEC on August 4, 2020).
10.31G+	Form of Non-U.S. Restricted Stock Unit Award Grant Notice and Form of Non-U.S. Restricted Stock Unit Award Agreement under the Jazz Pharmaceuticals plc Amended and Restated 2007 Non-Employee Directors Stock Award Plan (incorporated herein by reference to Exhibit 10.4 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2016, as filed with the SEC on November 8, 2016).
10.31H+	Form of Non-U.S. Option Grant Notice and Form of Non-U.S. Option Agreement under the Jazz Pharmaceuticals plc Amended and Restated Non-Employee Directors 2007 Stock Award Plan (incorporated herein by reference to Exhibit 10.5 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2016, as filed with the SEC on November 8, 2016).
10.31I+	Form of Non-U.S. Option Grant Notice and Non-U.S. Option Agreement under the Jazz Pharmaceuticals plc Amended and Restated 2007 Non-Employee Directors Stock Award Plan (incorporated herein by reference to Exhibit 10.2 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2018, as filed with the SEC on November 6, 2018).
10.31J+	Form of Non-U.S. Restricted Stock Unit Award Grant Notice and Non-U.S. Restricted Stock Unit Award Agreement under the Jazz Pharmaceuticals plc Amended and Restated 2007 Non-Employee Directors Stock Award Plan (incorporated herein by reference to Exhibit 10.3 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2018, as filed with the SEC on November 6, 2018).

10.31K+	Form of Non-U.S. Option Grant Notice and Non-U.S. Option Agreement under the Jazz Pharmaceuticals plc Amended and Restated 2007 Non-Employee Directors Stock Award Plan (incorporated herein by reference to Exhibit 10.2 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended March 31, 2019, as filed with the SEC on May 7, 2019).
10.31L+	Form of Non-U.S. Restricted Stock Unit Award Grant Notice and Non-U.S. Restricted Stock Unit Award Agreement under the Jazz Pharmaceuticals plc Amended and Restated 2007 Non-Employee Directors Stock Award Plan (incorporated herein by reference to Exhibit 10.3 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended March 31, 2019, as filed with the SEC on May 7, 2019).
10.31M+	Form of Non-U.S. Option Grant Notice and Non-U.S. Option Agreement under the Jazz Pharmaceuticals plc Amended and Restated 2007 Non-Employee Directors Stock Award Plan (incorporated herein by reference to Exhibit 10.2 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2020, as filed with the SEC on November 2, 2020).
10.31N+	Form of Non-U.S. Restricted Stock Unit Award Grant Notice and Non-U.S. Restricted Stock Unit Award Agreement under the Jazz Pharmaceuticals plc Amended and Restated 2007 Non-Employee Directors Stock Award Plan (incorporated herein by reference to Exhibit 10.3 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2020, as filed with the SEC on November 2, 2020).
10.32A+	Jazz Pharmaceuticals plc 2007 Employee Stock Purchase Plan, as amended and restated (incorporated herein by reference to Exhibit 10.31A in Jazz Pharmaceuticals plc's Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2012, as filed with the SEC on February 26, 2013).
10.32B+	Jazz Pharmaceuticals plc 2007 Employee Stock Purchase Plan Sub-Plan Governing Purchase Rights to Participants in the Republic of Ireland (incorporated herein by reference to Exhibit 10.14C in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended March 31, 2012, as filed with the SEC on May 8, 2012).
10.33A+	Jazz Pharmaceuticals plc Cash Bonus Plan for U.S. Affiliates (approved October 30, 2019) (incorporated herein by reference to Exhibit 10.34C in Jazz Pharmaceuticals plc's Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2019, as filed with the SEC on February 25, 2020).
10.33B+	Jazz Pharmaceuticals Cash Bonus Plan (Ireland and Other Specified Affiliates) (Calendar Year 2020) (incorporated herein by reference to Exhibit 10.34D in Jazz Pharmaceuticals plc's Annual Report on Form 10-K (File No. 001-33500) for the period ended December 31, 2019, as filed with the SEC on February 25, 2020).
10.33C+	Jazz Pharmaceuticals plc Cash Bonus Plan for U.S. Affiliates (approved October 30, 2020).
10.33D+	Jazz Pharmaceuticals Cash Bonus Plan (Ireland and Other Specified Affiliates) (Calendar Year 2021).
10.34+	Amended and Restated Executive Change in Control and Severance Benefit Plan, dated as of July 31, 2019 (incorporated herein by reference to Exhibit 10.6 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2019, as filed with the SEC on November 5, 2019).
10.35A+	Amended and Restated Non-Employee Director Compensation Policy (approved May 3, 2018) (incorporated herein by reference to Exhibit 10.1 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended June 30, 2018, as filed with the SEC on August 7, 2018).
10.35B+	Amended and Restated Non-Employee Director Compensation Policy (approved July 21, 2020) (incorporated herein by reference to Exhibit 10.1 in Jazz Pharmaceuticals plc's Quarterly Report on Form 10-Q (File No. 001-33500) for the period ended September 30, 2020, as filed with the SEC on November 2, 2020).
21.1	Subsidiaries of Jazz Pharmaceuticals plc.
23.1	Consent of KPMG, Independent Registered Public Accounting Firm.
24.1	Power of Attorney (included on the signature page hereto).
31.1	Certification of Principal Executive Officer pursuant to Rules 13a-14(a) and 15d-14(a) promulgated under the Securities Exchange Act of 1934, as amended.
31.2	Certification of Principal Financial Officer pursuant to Rules 13a-14(a) and 15d-14(a) promulgated under the Securities Exchange Act of 1934, as amended.
32.1*	Certification of Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

101.INS	XBRL Instance Document - The instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	Inline XBRL Taxonomy Extension Labels Linkbase Document
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

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+ Indicates management contract or compensatory plan.

† Confidential treatment has been granted for portions of this exhibit. Omitted portions have been filed separately with the Securities and Exchange Commission.

‡ Certain portions of this exhibit have been omitted pursuant to Item 601(b)(2) of Regulation S-K.

* The certifications attached as Exhibit 32.1 accompany this Annual Report on Form 10-K pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, and shall not be deemed "filed" by the Registrant for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: February 23, 2021

Jazz Pharmaceuticals public limited company
(Registrant)

/s/ BRUCE C. COZADD

Bruce C. Cozadd
Chairman and Chief Executive Officer and Director
(Principal Executive Officer)

/s/ RENÉE GALÁ

Renée Galá
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

/s/ PATRICIA CARR

Patricia Carr
Vice President, Finance
(Principal Accounting Officer)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Bruce C. Cozadd, Renée Galá, Neena M. Patil and Patricia Carr, and each of them, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution for him or her, and in his or her name in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, and any of them, his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, the following persons on behalf of the registrant and in the capacities and on the dates indicated have signed this report below:

Signature	Title	Date
/s/ BRUCE C. COZADD **Bruce C. Cozadd**	Chairman, Chief Executive Officer and Director *(Principal Executive Officer)*	February 23, 2021
/s/ RENÉE GALÁ **Renée Galá**	Executive Vice President and Chief Financial Officer *(Principal Financial Officer)*	February 23, 2021
/s/ PATRICIA CARR **Patricia Carr**	Vice President, Finance *(Principal Accounting Officer)*	February 23, 2021
/s/ PAUL L. BERNS **Paul L. Berns**	Director	February 23, 2021
/s/ JENNIFER E. COOK **Jennifer E. Cook**	Director	February 23, 2021
/s/ PATRICK G. ENRIGHT **Patrick G. Enright**	Director	February 23, 2021
/s/ PETER GRAY **Peter Gray**	Director	February 23, 2021
/s/ HEATHER ANN MCSHARRY **Heather Ann McSharry**	Director	February 23, 2021
/s/ SEAMUS C. MULLIGAN **Seamus C. Mulligan**	Director	February 23, 2021
/s/ KENNETH W. O'KEEFE **Kenneth W. O'Keefe**	Director	February 23, 2021
/s/ ANNE O'RIORDAN **Anne O'Riordan**	Director	February 23, 2021
/s/ NORBERT G. RIEDEL, PH.D. **Norbert G. Riedel, Ph.D.**	Director	February 23, 2021
/s/ ELMAR SCHNEE **Elmar Schnee**	Director	February 23, 2021
/s/ MARK D. SMITH, M.D. **Mark D. Smith, M.D.**	Director	February 23, 2021
/s/ CATHERINE A. SOHN, PHARM.D. **Catherine A. Sohn, Pharm.D.**	Director	February 23, 2021
/s/ RICK E WINNINGHAM **Rick E Winningham**	Director	February 23, 2021

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
Jazz Pharmaceuticals plc:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Jazz Pharmaceuticals plc and subsidiaries (the 'Company') as of December 31, 2020 and 2019, the related consolidated statements of income, comprehensive income, shareholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes and financial statement schedules at Item 15(a)2 (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2020, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 23, 2021 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Assessment of the carrying value for the Vyxeos intangible asset

As discussed in Note 9 to the consolidated financial statements, the finite-lived intangible assets balance as of December 31, 2020 was $2.2 billion, a substantial portion of which relates to the finite-lived intangible asset in respect of Vyxeos. As discussed in Note 2, the Company reviews finite-lived intangible assets for impairment when events or circumstances indicate that the carrying value of such assets may not be recoverable.

We identified the assessment of the carrying value of the Vyxeos intangible asset as a critical audit matter. There was a high degree of subjectivity in assessing the carrying value of Vyxeos, specifically revenue forecasts for Vyxeos, which are a key input to the determination of estimated undiscounted future cash flows.

The following are the primary procedures we performed to address this critical audit matter:

- We evaluated the design and tested the operating effectiveness of certain internal controls over the Vyxeos intangible asset impairment review process, including the Company's control related to the development of the revenue forecasts for Vyxeos;

- We evaluated the reasonableness of management's revenue forecasts for Vyxeos by comparing certain underlying assumptions to (1) company-specific operational information and management's communications to the Board of Directors and (2) available industry or other third-party reports on expected market opportunities;
- We assessed the Company's ability to accurately forecast revenues by comparing historical forecasted revenues for Vyxeos to actual results; and
- We performed a sensitivity analysis over Vyxeos estimated undiscounted future cash flows to assess the impact of changes to those forecasts on the Company's determination of the carrying value of Vyxeos.

Recoverability of U.S. deferred tax assets

As discussed in Note 21 to the consolidated financial statements, the Company had $752.7 million of deferred tax assets as of December 31, 2020, a substantial portion of which relates to U.S. net operating losses (NOLs) and tax credits carried forward. As discussed in Note 2, realization of the deferred tax assets is dependent on the generation of future taxable income, the amount and timing of which are uncertain.

We identified the recoverability of U.S. deferred tax assets as a critical audit matter due to the extent of specialized skills and knowledge needed and the subjectivity involved in assessing the Company's forecast of sufficient future taxable income. In particular, evaluating the Company's U.S. revenue forecasts involved a high degree of auditor judgment.

The following are the primary procedures we performed to address this critical audit matter:

- We evaluated the design and tested the operating effectiveness of certain internal controls over the Company's deferred tax asset valuation allowance process including controls related to the development of U.S. revenue forecasts;
- We evaluated the reasonableness of management's revenue forecasts for products sold in the U.S. by comparing certain underlying assumptions to (1) company-specific operational information and management's communication to the Board of Directors and (2) available industry or other third-party reports on expected market opportunities;
- We involved income tax professionals with specialized skills and knowledge, who assisted in performing a technical assessment of the Company's tax positions, application of relevant tax regulations and utilization of NOLs and tax credits; and
- To assess the Company's ability to forecast, for products sold in the U.S., we compared the Company's historical forecasted revenues to actual historic outcomes.

/s/ KPMG

We have served as the Company's auditor since 2012.

Dublin, Ireland
February 23, 2021

JAZZ PHARMACEUTICALS PLC

CONSOLIDATED BALANCE SHEETS
(In thousands, except per share amounts)

	December 31, 2020	December 31, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 1,057,769	$ 637,344
Investments	1,075,000	440,000
Accounts receivable, net of allowances of $5,487 and $1,296 at December 31, 2020 and 2019, respectively	396,490	355,987
Inventories	95,396	78,608
Prepaid expenses	62,422	39,434
Other current assets	152,491	78,895
Total current assets	2,839,568	1,630,268
Property, plant and equipment, net	127,935	131,506
Operating lease assets	129,169	139,385
Intangible assets, net	2,195,051	2,440,977
Goodwill	958,303	920,018
Deferred tax assets, net	254,916	221,403
Deferred financing costs	5,238	7,426
Other non-current assets	25,721	47,914
Total assets	$ 6,535,901	$ 5,538,897
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 26,945	$ 45,732
Accrued liabilities	352,732	269,686
Current portion of long-term debt	246,322	33,387
Income taxes payable	25,200	10,965
Deferred revenue	2,546	4,720
Total current liabilities	653,745	364,490
Deferred revenue, non-current	2,315	4,861
Long-term debt, less current portion	1,848,516	1,573,870
Operating lease liabilities, less current portion	140,035	151,226
Deferred tax liabilities, net	130,397	224,095
Other non-current liabilities	101,148	109,374
Commitments and contingencies (Note 13)		
Shareholders' equity:		
Ordinary shares, nominal value $0.0001 per share; 300,000 shares authorized; 56,171 and 56,140 shares issued and outstanding at December 31, 2020 and 2019, respectively	6	6
Non-voting euro deferred shares, €0.01 par value per share; 4,000 shares authorized, issued and outstanding at both December 31, 2020 and 2019	55	55
Capital redemption reserve	472	472
Additional paid-in capital	2,633,670	2,266,026
Accumulated other comprehensive loss	(134,352)	(223,393)
Retained earnings	1,159,894	1,067,815
Total shareholders' equity	3,659,745	3,110,981
Total liabilities and shareholders' equity	$ 6,535,901	$ 5,538,897

The accompanying notes are an integral part of these consolidated financial statements.

JAZZ PHARMACEUTICALS PLC

CONSOLIDATED STATEMENTS OF INCOME
(In thousands, except per share amounts)

	Year Ended December 31,		
	2020	2019	2018
Revenues:			
Product sales, net	$ 2,346,660	$ 2,135,601	$ 1,869,473
Royalties and contract revenues	16,907	26,160	21,449
Total revenues	2,363,567	2,161,761	1,890,922
Operating expenses:			
Cost of product sales (excluding amortization of acquired developed technologies)	148,917	127,930	121,544
Selling, general and administrative	854,233	736,942	683,530
Research and development	335,375	299,726	226,616
Intangible asset amortization	259,580	354,814	201,498
Impairment charges	136,139	—	42,896
Acquired in-process research and development	251,250	109,975	—
Total operating expenses	1,985,494	1,629,387	1,276,084
Income from operations	378,073	532,374	614,838
Interest expense, net	(99,707)	(72,261)	(78,500)
Foreign exchange loss	(3,271)	(5,811)	(6,875)
Income before income tax provision (benefit) and equity in loss of investees	275,095	454,302	529,463
Income tax provision (benefit)	33,517	(73,154)	80,162
Equity in loss of investees	2,962	4,089	2,203
Net income	$ 238,616	$ 523,367	$ 447,098
Net income per ordinary share:			
Basic	$ 4.28	$ 9.22	$ 7.45
Diluted	$ 4.22	$ 9.09	$ 7.30
Weighted-average ordinary shares used in per share calculations - basic	55,712	56,749	59,976
Weighted-average ordinary shares used in per share calculations - diluted	56,517	57,550	61,221

The accompanying notes are an integral part of these consolidated financial statements.

JAZZ PHARMACEUTICALS PLC

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In thousands)

	Year Ended December 31,		
	2020	2019	2018
Net income	$ 238,616	$ 523,367	$ 447,098
Other comprehensive income (loss):			
Foreign currency translation adjustments	90,183	(20,720)	(58,988)
Unrealized gain (loss) on hedging activities, net of income tax provision (benefit) of ($163), ($697) and $289, respectively	(1,142)	(4,882)	2,022
Other comprehensive income (loss)	89,041	(25,602)	(56,966)
Total comprehensive income	$ 327,657	$ 497,765	$ 390,132

The accompanying notes are an integral part of these consolidated financial statements.

JAZZ PHARMACEUTICALS PLC

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
(In thousands)

	Ordinary Shares		Non-voting Euro Deferred		Capital Redemption Reserve	Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Total Equity
	Shares	Amount	Shares	Amount					
Balance at December 31, 2017	59,898	$ 6	4,000	$ 55	$ 472	$1,935,486	$ (140,878)	$ 917,956	$2,713,097
Cumulative effect adjustment from adoption of new accounting standards	—	—	—	—	—	—	53	(332)	(279)
Issuance of ordinary shares in conjunction with exercise of share options	772	—	—	—	—	82,918	—	—	82,918
Issuance of ordinary shares under employee stock purchase plan	111	—	—	—	—	10,419	—	—	10,419
Issuance of ordinary shares in conjunction with vesting of restricted stock units	253	—	—	—	—	—	—	—	—
Shares withheld for payment of employee's withholding tax liability	—	—	—	—	—	(17,925)	—	—	(17,925)
Share-based compensation	—	—	—	—	—	102,732	—	—	102,732
Shares repurchased	(3,530)	—	—	—	—	—	—	(523,672)	(523,672)
Other comprehensive loss	—	—	—	—	—	—	(56,966)	—	(56,966)
Net income	—	—	—	—	—	—	—	447,098	447,098
Balance at December 31, 2018	57,504	6	4,000	55	472	2,113,630	(197,791)	841,050	2,757,422
Cumulative effect adjustment from adoption of new accounting standards	—	—	—	—	—	—	—	4,848	4,848
Issuance of ordinary shares in conjunction with exercise of share options	515	—	—	—	—	46,477	—	—	46,477
Issuance of ordinary shares under employee stock purchase plan	106	—	—	—	—	11,354	—	—	11,354
Issuance of ordinary shares in conjunction with vesting of restricted stock units	265	—	—	—	—	—	—	—	—
Shares withheld for payment of employee's withholding tax liability	—	—	—	—	—	(16,739)	—	—	(16,739)
Share-based compensation	—	—	—	—	—	111,304	—	—	111,304
Shares repurchased	(2,250)	—	—	—	—	—	—	(301,450)	(301,450)
Other comprehensive loss	—	—	—	—	—	—	(25,602)	—	(25,602)
Net income	—	—	—	—	—	—	—	523,367	523,367
Balance at December 31, 2019	56,140	$ 6	4,000	$ 55	$ 472	$2,266,026	$ (223,393)	$1,067,815	$3,110,981

JAZZ PHARMACEUTICALS PLC

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY—(Continued)
(In thousands)

	Ordinary Shares		Non-voting Euro Deferred		Capital Redemption Reserve	Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Total Equity
	Shares	Amount	Shares	Amount					
Balance at December 31, 2019	56,140	$ 6	4,000	$ 55	$ 472	$2,266,026	$ (223,393)	$1,067,815	$3,110,981
Stock issued under directors deferred compensation plan	37	—	—	—	—	—	—	—	—
Issuance of Exchangeable Senior Notes, due 2026	—	—	—	—	—	176,260	—	—	176,260
Partial repurchase of Exchangeable Senior Notes, due 2021	—	—	—	—	—	(12,513)	—	—	(12,513)
Issuance of ordinary shares in conjunction with exercise of share options	780	—	—	—	—	86,984	—	—	86,984
Issuance of ordinary shares under employee stock purchase plan	125	—	—	—	—	12,697	—	—	12,697
Issuance of ordinary shares in conjunction with vesting of restricted stock units	290	—	—	—	—	—	—	—	—
Shares withheld for payment of employee's withholding tax liability	—	—	—	—	—	(16,877)	—	—	(16,877)
Share-based compensation	—	—	—	—	—	121,093	—	—	121,093
Shares repurchased	(1,201)	—	—	—	—	—	—	(146,537)	(146,537)
Other comprehensive income	—	—	—	—	—	—	89,041	—	89,041
Net income	—	—	—	—	—	—	—	238,616	238,616
Balance at December 31, 2020	56,171	$ 6	4,000	$ 55	$ 472	$2,633,670	$ (134,352)	$1,159,894	$3,659,745

The accompanying notes are an integral part of these consolidated financial statements.

JAZZ PHARMACEUTICALS PLC

CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended December 31,		
	2020	2019	2018
Operating activities			
Net income	$ 238,616	$ 523,367	$ 447,098
Adjustments to reconcile net income to net cash provided by operating activities:			
Intangible asset amortization	259,580	354,814	201,498
Share-based compensation	120,998	110,563	102,441
Impairment charges	136,139	—	42,896
Depreciation	18,673	15,342	15,233
Acquired in-process research and development	251,250	109,975	—
Distributions from equity method investees	5,438	—	—
Deferred tax benefit	(136,937)	(236,610)	(88,815)
Provision for losses on accounts receivable and inventory	15,000	6,668	4,728
Loss on extinguishment and modification of debt	5,089	—	1,425
Amortization of debt discount and deferred financing costs	56,659	46,396	43,960
Other non-cash transactions	14,580	59	7,357
Changes in assets and liabilities:			
Accounts receivable	(38,647)	(92,326)	(40,132)
Inventories	(30,537)	(32,790)	(18,512)
Prepaid expenses and other current assets	(98,042)	(25,650)	6,697
Other non-current assets	21,913	(18,919)	(2,523)
Operating lease assets	12,366	14,148	—
Accounts payable	(18,935)	4,770	17,040
Accrued liabilities	79,477	(5,565)	71,208
Income taxes payable	13,038	10,056	(19,735)
Deferred revenue	(4,720)	(5,414)	(7,497)
Other non-current liabilities	(8,967)	3,561	14,537
Operating lease liabilities, less current portion	(12,383)	(6,044)	—
Net cash provided by operating activities	899,648	776,401	798,904
Investing activities			
Acquisition of investments	(2,397,675)	(917,100)	(1,165,915)
Proceeds from maturity of investments	1,755,000	985,000	855,000
Acquired in-process research and development	(251,250)	(61,700)	—
Purchases of property, plant and equipment	(15,004)	(40,135)	(20,370)
Asset acquisition, net of cash acquired	—	(55,074)	—
Acquisition of intangible assets	(113,000)	(80,500)	(111,100)
Net proceeds from sale of assets	14,259	14,209	47,898
Net cash used in investing activities	(1,007,670)	(155,300)	(394,487)
Financing activities			
Net proceeds from issuance of Exchangeable Senior Notes, due 2026	981,381	—	—
Proceeds from revolving credit facility	500,000	—	—
Proceeds from employee equity incentive and purchase plans	99,681	57,831	93,337
Share repurchases	(146,537)	(301,450)	(523,672)
Payment of employee withholding taxes related to share-based awards	(16,877)	(16,739)	(17,925)
Repayments of long-term debt	(33,387)	(33,387)	(25,717)
Payment of debt modification costs	—	—	(6,406)
Payments for partial repurchase of Exchangeable Senior Notes, due 2021	(356,188)	—	—
Repayments under revolving credit facility	(500,000)	—	—
Proceeds from tenant improvement allowance on build-to-suit lease	—	—	1,253
Net cash provided by (used in) financing activities	528,073	(293,745)	(479,130)
Effect of exchange rates on cash and cash equivalents	374	366	(1,700)
Net increase (decrease) in cash and cash equivalents	420,425	327,722	(76,413)
Cash and cash equivalents, at beginning of period	637,344	309,622	386,035
Cash and cash equivalents, at end of period	$ 1,057,769	$ 637,344	$ 309,622

JAZZ PHARMACEUTICALS PLC

CONSOLIDATED STATEMENTS OF CASH FLOWS—(Continued)
(In thousands)

	Year Ended December 31,		
	2020	2019	2018
Supplemental disclosure of cash flow information:			
Cash paid for interest	$ 42,470	$ 43,002	$ 42,706
Cash paid for income taxes	226,823	183,610	164,217
Non-cash investing activities:			
Amounts capitalized in connection with facility lease obligations	—	—	27,747

The accompanying notes are an integral part of these consolidated financial statements.

JAZZ PHARMACEUTICALS PLC

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Organization and Description of Business

Jazz Pharmaceuticals plc is an innovative global biopharmaceutical company dedicated to developing and commercializing life-changing medicines that transform the lives of patients with serious diseases – often with limited or no options. We have a diverse portfolio of marketed medicines and novel product candidates, in early- to late-stage development, across key therapeutic areas. Our focus is in neuroscience, including sleep and movement disorders, and in oncology, including hematologic malignancies and solid tumors. We actively explore new options for patients including novel compounds, small molecule advancements, biologics and innovative delivery technologies.

Our lead marketed products are:

- **Xyrem® (sodium oxybate) oral solution**, a product approved by the U.S. Food and Drug Administration, or FDA, and marketed in the U.S. for the treatment of both cataplexy and excessive daytime sleepiness, or EDS, in narcolepsy patients seven years of age and older;
- **Xywav™ (calcium, magnesium, potassium, and sodium oxybates) oral solution**, a product that contains 92% less sodium than Xyrem, approved by FDA and launched in the U.S. in November 2020 for the treatment of cataplexy or EDS in narcolepsy patients seven years of age and older;
- **Sunosi® (solriamfetol)**, a product approved by FDA and the European Commission, and marketed in the U.S. and in Europe to improve wakefulness in adult patients with EDS associated with narcolepsy or obstructive sleep apnea;
- **Defitelio® (defibrotide sodium)**, a product approved in the U.S. for the treatment of adult and pediatric patients with hepatic veno-occlusive disease, or VOD, also known as sinusoidal obstruction syndrome, with renal or pulmonary dysfunction following hematopoietic stem cell transplantation, or HSCT, and in Europe (where it is marketed as Defitelio® (defibrotide)) for the treatment of severe VOD in adults and children undergoing HSCT therapy;
- **Erwinaze® (asparaginase *Erwinia chrysanthemi*)**, a product approved in the U.S. and in certain markets in Europe (where it is marketed as Erwinase®) for patients with acute lymphoblastic leukemia who have developed hypersensitivity to *E. coli*-derived asparaginase;
- **Vyxeos® (daunorubicin and cytarabine) liposome for injection**, a product approved in the U.S. and in Europe (where it is marketed as Vyxeos® liposomal 44 mg/100 mg powder for concentrate for solution for infusion) for the treatment of adults with newly-diagnosed therapy-related acute myeloid leukemia or acute myeloid leukemia with myelodysplasia-related changes; and
- **Zepzelca™ (lurbinectedin)**, a product approved by FDA and launched in July 2020 in the U.S. for the treatment of adult patients with metastatic small cell lung cancer, or SCLC, with disease progression on or after platinum-based chemotherapy.

Throughout this report, unless otherwise indicated or the context otherwise requires, all references to "Jazz Pharmaceuticals," "Jazz," "the registrant," "we," "us," and "our" refer to Jazz Pharmaceuticals plc and its consolidated subsidiaries. Throughout this report, all references to "ordinary shares" refer to Jazz Pharmaceuticals plc's ordinary shares.

2. Summary of Significant Accounting Policies

Basis of Presentation

The consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles, or U.S. GAAP, and include the accounts of Jazz Pharmaceuticals plc and our subsidiaries and intercompany transactions and balances have been eliminated. Our consolidated financial statements include the results of operations of businesses we have acquired from the date of each acquisition for the applicable reporting periods.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosures in the consolidated financial statements and accompanying notes. Management bases its estimates on historical experience and on assumptions believed to be reasonable under the circumstances. Actual results could differ materially from those estimates.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Adoption of New Accounting Standards

In August 2018, the Financial Accounting Standards Board, or FASB, issued ASU No. 2018-15, "Intangibles-Goodwill and Other-Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract" which aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. We adopted this standard on January 1, 2020 and adoption did not have a material impact on our consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-04, "Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment" which simplifies the accounting for goodwill impairment by eliminating Step 2 of the goodwill impairment test. Goodwill impairment will now be the amount by which the reporting unit's carrying value exceeds its fair value, limited to the carrying value of the goodwill. We adopted this standard on January 1, 2020 and adoption did not have a material impact on our consolidated financial statements.

In June 2016, the FASB issued ASU No. 2016-13, "Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments" which requires that credit losses on financial assets measured at amortized cost be determined using an expected loss model, instead of the incurred loss model, and requires that credit losses related to available-for-sale debt securities be recorded through an allowance for credit losses and limited to the amount by which carrying value exceeds fair value. We adopted this standard on January 1, 2020 and adoption did not have a material impact on our consolidated financial statements.

In March 2020, the FASB issued ASU No. 2020-04, "Reference Rate Reform (ASC 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting" which contains optional expedients and exceptions for applying GAAP to contracts, hedging relationships and other transactions affected by reference rate reform. ASC 848 allows for different elections to be made at different points in time, and the timing of those elections will be documented as applicable. For the avoidance of doubt, we intend to reassess the elections of optional expedients and exceptions included within ASC 848 related to our hedging activities and will document the election of these items on a quarterly basis. ASC 848 is effective for us as of January 1, 2020 and will no longer be available to apply after December 31, 2022. In June 2020, we elected the expedient in ASC 848-50-25-2, which allows us to assume that our hedged interest payments will probably occur regardless of any expected modification in their terms related to reference rate reform. Adoption is not expected to have a material impact on our consolidated financial statements.

Significant Risks and Uncertainties

With the global impact of the COVID-19 pandemic, we have developed a comprehensive response strategy including establishing cross-functional response teams and implementing business continuity plans to manage the impact of the COVID-19 pandemic on our employees, patients and our business. Since the second quarter of 2020, we have been experiencing financial and other impacts of the pandemic, and given the global economic slowdown, the overall disruption of global healthcare systems and the other risks and uncertainties associated with the pandemic, we expect that our business, financial condition, results of operations and growth prospects will continue to be adversely affected in future quarters. With respect to our commercialization activities, the evolving effects of the COVID-19 pandemic continue to have a negative impact on demand, new patient starts and treatments for our products, primarily due to the inherent limitations of telemedicine and a reprioritization of healthcare resources toward COVID-19. The extent of the impact on our ability to generate sales of and revenues from our approved products, execute on new product launches, our clinical development and regulatory efforts, our corporate development objectives and the value of and market for our ordinary shares, will depend on future developments that are highly uncertain and cannot be predicted with confidence at this time, such as the ultimate duration and severity of the pandemic, governmental "stay-at-home" orders and travel restrictions, quarantines, social distancing and business closure requirements in the U.S., Ireland and other countries, and the effectiveness of actions taken globally to contain and treat the disease.

Our financial results are significantly influenced by sales of Xyrem. Our future plans assume that our newly launched oxybate product Xywav, with 92% lower sodium compared to Xyrem, depending on the dose, absence of a sodium warning and dosing titration option, will become the treatment of choice for patients who can benefit from oxybate treatment, current Xyrem patients, and patients who previously were not prescribed Xyrem, including those patients for whom sodium content is a concern. While we expect that our business will continue to be substantially dependent on oxybate product sales from both Xyrem and Xywav, there is no guarantee that we can maintain oxybate sales at or near historical levels, or that oxybate sales will continue to grow. Our ability to maintain or increase oxybate sales is subject to a number of risks and uncertainties including, without limitation, those related to the introduction of authorized generic and generic versions of sodium oxybate and/or new products for treatment of cataplexy and/or EDS in narcolepsy in the U.S. market, the current and potential impacts

of the ongoing COVID-19 pandemic, including the current and expected future negative impact on demand for our products and the uncertainty with respect to our ability to meet commercial demand in the future, increased pricing pressure from, changes in policies by, or restrictions on reimbursement imposed by, third party payors, including our ability to obtain and maintain adequate coverage and reimbursement for Xywav, challenges to our intellectual property around Xyrem and Xywav, and continued acceptance of Xyrem by physicians and patients and acceptance of Xywav by payors, physicians and patients.

In addition to risks related specifically to Xyrem and Xywav, we are subject to other challenges and risks related to successfully commercializing a portfolio of oncology products and other neuroscience products, including Sunosi, Defitelio, Erwinaze, Vyxeos and Zepzelca, and other risks specific to our business and our ability to execute on our strategy, as well as risks and uncertainties common to companies in the pharmaceutical industry with development and commercial operations, including, without limitation, risks and uncertainties associated with: obtaining regulatory approval of our late-stage product candidates; effectively commercializing our recently approved products such as Sunosi, Zepzelca and Xywav; obtaining and maintaining adequate coverage and reimbursement for our products; increasing scrutiny of pharmaceutical product pricing and resulting changes in healthcare laws and policy; market acceptance; delays or problems in the supply of our products, loss of single source suppliers or failure to comply with manufacturing regulations; identifying, acquiring or in-licensing additional products or product candidates; pharmaceutical product development and the inherent uncertainty of clinical success; the challenges of protecting and enhancing our intellectual property rights; complying with applicable regulatory requirements; and possible restrictions on our ability and flexibility to pursue certain future opportunities as a result of our substantial outstanding debt obligations. In addition, to the extent the COVID-19 pandemic continues to adversely affect our business and results of operations, it may also have the effect of heightening many of the other risks and uncertainties discussed above.

Concentrations of Risk

Financial instruments that potentially subject us to concentrations of credit risk consist of cash, cash equivalents, investments and derivative contracts. Our investment policy permits investments in U.S. federal government and federal agency securities, corporate bonds or commercial paper issued by U.S. corporations, money market instruments, certain qualifying money market mutual funds, certain repurchase agreements, and tax-exempt obligations of U.S. states, agencies and municipalities and places restrictions on credit ratings, maturities, and concentration by type and issuer. We are exposed to credit risk in the event of a default by the financial institutions holding our cash, cash equivalents and investments to the extent recorded on the balance sheet.

We manage our foreign currency transaction risk and interest rate risk within specified guidelines through the use of derivatives. All of our derivative instruments are utilized for risk management purposes, and we do not use derivatives for speculative trading purposes. As of December 31, 2020 and 2019, we had foreign exchange forward contracts with notional amounts totaling $357.4 million and $180.9 million, respectively. As of December 31, 2020 and 2019, the outstanding foreign exchange forward contracts had a net asset fair value of $11.1 million and $2.3 million, respectively. As of December 31, 2020 and 2019, we had interest rate swap contracts with notional amounts totaling $300.0 million. These outstanding interest rate swap contracts had a net liability fair value of $2.8 million and $1.5 million as of December 31, 2020 and 2019, respectively. The counterparties to these contracts are large multinational commercial banks, and we believe the risk of nonperformance is not significant.

We are also subject to credit risk from our accounts receivable related to our product sales. We monitor our exposure within accounts receivable and record a reserve against uncollectible accounts receivable as necessary. We extend credit to pharmaceutical wholesale distributors and specialty pharmaceutical distribution companies, primarily in the U.S., and to other international distributors and hospitals. Customer creditworthiness is monitored and collateral is not required. We monitor deteriorating economic conditions in certain European countries which may result in variability of the timing of cash receipts and an increase in the average length of time that it takes to collect accounts receivable outstanding. Historically, we have not experienced significant credit losses on our accounts receivable and as of December 31, 2020, allowances on receivables were not material. As of December 31, 2020, two customers accounted for 80% of gross accounts receivable, Express Scripts Specialty Distribution Services, Inc. and its affiliates, or ESSDS, which accounted for 68% of gross accounts receivable, and McKesson Corporation and affiliates, or McKesson, which accounted for 12% of gross accounts receivable. As of December 31, 2019, two customers accounted for 89% of gross accounts receivable, ESSDS, which accounted for 77% of gross accounts receivable, and McKesson, which accounted for 12% of gross accounts receivable.

We depend on single source suppliers for most of our products, product candidates and their APIs. With respect to Xyrem, the API is manufactured for us by a single source supplier and the finished product is manufactured both by us in our facility in Athlone, Ireland and by our U.S.-based Xyrem supplier.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Business Acquisitions

Our consolidated financial statements include the results of operations of an acquired business from the date of acquisition. We account for acquired businesses using the acquisition method of accounting. The acquisition method of accounting for acquired businesses requires, among other things, that assets acquired, liabilities assumed and any noncontrolling interests in the acquired business be recognized at their estimated fair values as of the acquisition date, with limited exceptions, and that the fair value of acquired in-process research and development, or IPR&D, be recorded on the balance sheet. Also, transaction costs are expensed as incurred. Any excess of the acquisition consideration over the assigned values of the net assets acquired is recorded as goodwill. Contingent consideration is included within the acquisition cost and is recognized at its fair value on the acquisition date. A liability resulting from contingent consideration is remeasured to fair value at each reporting date until the contingency is resolved and changes in fair value are recognized in earnings.

Cash Equivalents and Investments

We consider all highly liquid investments, readily convertible to cash, that mature within three months or less from date of purchase to be cash equivalents.

Investments consist of time deposits with initial maturities of greater than three months. Collectively, cash equivalents and investments are considered available-for-sale and are recorded at fair value. Unrealized gains and losses, net of tax, are recorded in accumulated other comprehensive loss in shareholders' equity. We use the specific-identification method for calculating realized gains and losses on securities sold. Realized gains and losses and declines in value judged to be other than temporary on investments are included in interest expense, net in the consolidated statements of income.

Derivative Instruments and Hedging Activities

We record the fair value of derivative instruments as either assets or liabilities on the consolidated balance sheets. Changes in the fair value of derivative instruments are recorded each period in current earnings or other comprehensive income (loss), depending on whether a derivative instrument is designated as part of a hedging transaction and, if it is, the type of hedging transaction. For a derivative to qualify as a hedge at inception and throughout the hedged period, we formally document the nature and relationships between the hedging instruments and hedged item. We assess, both at inception and on an on-going basis, whether the derivative instruments that are used in cash flow hedging transactions are highly effective in offsetting the changes in cash flows of hedged items. Gains or losses on cash flow hedges are reclassified from other comprehensive income (loss) to earnings when the hedged transaction occurs. If we determine that a forecasted transaction is no longer probable of occurring, we discontinue hedge accounting and any related unrealized gain or loss on the derivative instrument is recognized in current earnings. Derivatives that are not designated and do not qualify as hedges are adjusted to fair value through current earnings.

Inventories

Inventories are valued at the lower of cost or net realizable value. Cost is determined using the first-in, first-out method for all inventories. Our policy is to write down inventory that has become obsolete, inventory that has a cost basis in excess of its expected net realizable value and inventory in excess of expected requirements. The estimate of excess quantities is subjective and primarily dependent on our estimates of future demand for a particular product. If our estimate of future demand changes, we consider the impact on the reserve for excess inventory and adjust the reserve as required. Increases in the reserve are recorded as charges in cost of product sales.

We capitalize inventory costs associated with our products prior to regulatory approval when, based on management's judgment, future commercialization is considered probable and the future economic benefit is expected to be realized; otherwise, such costs are expensed as research and development. The determination to capitalize inventory costs is based on various factors, including status and expectations of the regulatory approval process, any known safety or efficacy concerns, potential labeling restrictions, and any other impediments to obtaining regulatory approval. We had no pre-approval inventory on our consolidated balance sheet as of December 31, 2020 or 2019.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Property, Plant and Equipment

Property, plant and equipment are stated at cost, less accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the assets. Estimated useful lives are as follows:

Buildings	40 years
Manufacturing equipment and machinery	5-10 years
Computer software and equipment	3-7 years
Furniture and fixtures	5 years

Leasehold improvements are amortized over the shorter of the noncancelable term of our leases or their economic useful lives. Maintenance and repairs are expensed as incurred.

Leases

We determine if an arrangement is a lease at inception. Operating leases are included in operating lease assets, other current liabilities, and operating lease liabilities on our consolidated balance sheets. Operating lease assets and operating lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at commencement date. In determining the net present value of lease payments, we use our incremental borrowing rate based on the information available at the lease commencement date. The operating lease asset also includes any lease payments made, reduced by lease incentives and increased by initial direct costs incurred. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term.

We have lease agreements with lease and non-lease components, which are generally accounted for separately. For vehicle leases we account for the lease and non-lease components as a single lease component.

We have elected the short-term lease exemption and, therefore, do not recognize an operating lease asset or corresponding liability for lease arrangements with an original term of 12 months or less. Rent expense under short-term leases is recognized on a straight-line basis over the lease term.

Goodwill

Goodwill represents the excess of the acquisition consideration over the fair value of assets acquired and liabilities assumed. We have determined that we operate in a single segment and have a single reporting unit associated with the development and commercialization of pharmaceutical products. In performing the annual impairment test, the fair value of the reporting unit is compared to its corresponding carrying value, including goodwill. If the carrying value exceeds the fair value of the reporting unit an impairment loss will be recognized for the amount by which the reporting unit's carrying amount exceeds its fair value, not to exceed the carrying amount of goodwill. We test goodwill for impairment annually in October and when events or changes in circumstances indicate that the carrying value may not be recoverable.

Acquired In-Process Research and Development

The initial costs of rights to IPR&D projects acquired in an asset acquisition are expensed as IPR&D unless the project has an alternative future use. The fair value of IPR&D projects acquired in a business combination are capitalized and accounted for as indefinite-lived intangible assets until the underlying project receives regulatory approval, at which point the intangible asset will be accounted for as a finite-lived intangible asset, or discontinued, at which point the intangible asset will be written off. Development costs incurred after an acquisition are expensed as incurred.

Intangible Assets

Intangible assets with finite useful lives consist primarily of purchased developed technology and are amortized on a straight-line basis over their estimated useful lives, which range from two to eighteen years. The estimated useful lives associated with finite-lived intangible assets are consistent with the estimated lives of the associated products and may be modified when circumstances warrant. Such assets are reviewed for impairment when events or circumstances indicate that the carrying value of an asset may not be recoverable. An impairment loss would be recognized when estimated undiscounted future cash flows expected to result from the use of an asset and its eventual disposition are less than its carrying amount. The amount of any impairment is measured as the difference between the carrying amount and the fair value of the impaired asset.

Revenue Recognition

Our revenue comprises product sales, net and royalty and contract revenues. Revenues are recognized when control of the promised goods or services is transferred to our customers, in an amount that reflects the consideration we expect to be

entitled to in exchange for those goods or services. Prior to recognizing revenue, we make estimates of the transaction price, including variable consideration that is subject to a constraint. Amounts of variable consideration are included in the transaction price to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved.

Product Sales, Net

Product sales revenue is recognized when control has transferred to the customer, which occurs at a point in time, which is typically on delivery to the customer or, in the case of products that are subject to consignment agreements, when the customer removes product from our consigned inventory location for shipment directly to a patient.

Reserves for Variable Consideration

Revenues from sales of products are recorded at the net sales price, which includes estimates of variable consideration for which reserves are established and which relate to returns, specialty distributor fees, wholesaler fees, prompt payment discounts, government rebates, government chargebacks, coupon programs and rebates under managed care plans and commercial payor contracts. Calculating certain of these reserves involves estimates and judgments and we determine their expected value based on sales or invoice data, contractual terms, historical utilization rates, new information regarding changes in these programs' regulations and guidelines that would impact the amount of the actual rebates, our expectations regarding future utilization rates for these programs and channel inventory data. These reserves reflect our best estimates of the amount of consideration to which we are entitled based on the terms of the contract. The amount of variable consideration that is included in the transaction price may be constrained, and is included in the net sales price only to the extent that it is probable that a significant reversal in the amount of the cumulative revenue recognized will not occur in a future period. We reassess our reserves for variable consideration at each reporting date. Historically, adjustments to estimates for these reserves have not been material.

Reserves for returns, specialty distributor fees, wholesaler fees, government rebates, coupon programs and rebates under managed care plans and commercial payor contracts are included within current liabilities in our consolidated balance sheets. Reserves for government chargebacks and prompt payment discounts are shown as a reduction in accounts receivable.

Royalties and Contract Revenues

We enter into out-licensing agreements under which we license certain rights to our products or product candidates to third parties. If a licensing arrangement includes multiple goods or services, we consider whether the license is distinct. If the license to our intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, we recognize revenue from non-refundable, upfront fees allocated to the license when the license is transferred to the licensee and the licensee is able to use and benefit from the license. If the license to our intellectual property is determined not to be distinct, it is combined with other goods or services into a combined performance obligation. We consider whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue from non-refundable, upfront fees. We evaluate the measure of progress each reporting date and, if necessary, adjust the measure of performance and related revenue recognition.

At the inception of each arrangement that includes development milestone payments, we evaluate whether the milestones are considered probable of being reached and estimate the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price. Milestone payments that are not within our control or that of the licensee, such as regulatory approvals, are not considered probable of being achieved until those approvals are received. The transaction price is allocated to each performance obligation on a relative stand-alone selling price basis, for which we recognize revenue as or when the performance obligations under the contract are satisfied. At the end of each subsequent reporting period, we re-evaluate the probability of achievement of such development milestones and any related constraint, and if necessary, adjust our estimate of the overall transaction price.

For arrangements that include sales-based royalties and milestone payments based on the level of sales, and the license is deemed to be the predominant item to which the royalties and sales-based milestones relate, we recognize revenue at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty or sales-based milestone has been allocated has been satisfied (or partially satisfied).

Cost of Product Sales

Cost of product sales includes manufacturing and distribution costs, the cost of drug substance, royalties due to third parties on product sales, product liability and cargo insurance, FDA user fees, freight, shipping, handling and storage costs and salaries and related costs of employees involved with production. Excluded from cost of product sales shown on the

consolidated statements of income is amortization of acquired developed technology of $259.6 million, $243.7 million and $201.3 million in 2020, 2019 and 2018, respectively.

Research and Development

Research and development expenses consist primarily of costs related to clinical studies and outside services, personnel expenses and other research and development costs, including milestone payments incurred prior to regulatory approval of products. Clinical study and outside services costs relate primarily to services performed by clinical research organizations, clinical studies performed at clinical sites, materials and supplies, and other third party fees. Personnel expenses relate primarily to salaries, benefits and share-based compensation. Other research and development expenses primarily include overhead allocations consisting of various support and facilities-related costs. Research and development costs are expensed as incurred. For product candidates that have not been approved by FDA, inventory used in clinical trials is expensed at the time of production and recorded as research and development expense. For products that have been approved by FDA, inventory used in clinical trials is expensed at the time the inventory is packaged for the trial.

Advertising Expenses

We expense the costs of advertising, including promotional expenses, as incurred. Advertising expenses were $99.6 million, $65.4 million and $37.4 million in 2020, 2019 and 2018, respectively.

Income Taxes

We use the asset and liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are determined based on differences between the financial statement carrying amount and the tax basis of assets and liabilities and are measured using enacted tax rates and laws that will be in effect when the differences are expected to reverse. A valuation allowance is provided when it is more-likely-than-not that some portion or all of a deferred tax asset will not be realized. We recognize the benefits of a tax position if it is “more-likely-than-not” of being sustained. A recognized tax benefit is then measured as the largest amount of tax benefit that is greater than fifty percent likely of being realized upon settlement. Interest and penalties related to unrecognized tax benefits are included in the income tax provision and classified with the related liability on the consolidated balance sheets.

Foreign Currency

Our functional and reporting currency is the U.S. dollar. The assets and liabilities of our subsidiaries that have a functional currency other than the U.S. dollar are translated into U.S. dollars at the exchange rate prevailing at the balance sheet date with the results of operations of subsidiaries translated at the weighted average exchange rate for the reporting period. The cumulative foreign currency translation adjustment is recorded as a component of accumulated other comprehensive income (loss) in shareholders’ equity.

Transactions in foreign currencies are translated into the functional currency of the relevant subsidiary at the weighted average exchange rate for the reporting period. Any monetary assets and liabilities arising from these transactions are translated into the relevant functional currency at exchange rates prevailing at the balance sheet date or on settlement. Resulting gains and losses are recorded in foreign exchange gain (loss) in our consolidated statements of income.

Deferred Financing Costs

Deferred financing costs are reported at cost, less accumulated amortization and are presented in the consolidated balance sheets as a direct deduction from the carrying value of the associated debt, with the exception of deferred financing costs associated with revolving-debt arrangements which are presented as assets. The related amortization expense is included in interest expense, net in our consolidated statements of income.

Contingencies

From time to time, we may become involved in claims and other legal matters arising in the ordinary course of business. We record accruals for loss contingencies to the extent that we conclude that it is probable that a liability has been incurred and the amount of the related loss can be reasonably estimated. Legal fees and other expenses related to litigation are expensed as incurred and included in selling, general and administrative expenses.

Share-Based Compensation

We account for compensation cost for all share-based awards at fair value on the date of grant. The fair value is recognized as expense over the service period, net of estimated forfeitures, using the straight-line method. The estimation of share-based awards that will ultimately vest requires judgment, and, to the extent actual results or updated estimates differ from

current estimates, such amounts will be recorded as a cumulative adjustment in the period estimates are revised. We primarily consider historical experience when estimating expected forfeitures.

Recent Accounting Pronouncements

In December 2019, the FASB issued ASU No. 2019-12, "Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes", which simplifies the accounting for income taxes by removing certain exceptions to the general principles in the existing guidance for income taxes and making other minor improvements. The amendments are effective for annual reporting periods beginning after December 15, 2020 with early adoption permitted. The new guidance is not expected to have a material impact on our results of operations and financial position.

In August 2020, the FASB issued ASU No. 2020-06, "Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging— Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity", which simplifies the accounting for convertible instruments by eliminating the requirement to separate embedded conversion features from the host contract when the conversion features are not required to be accounted for as derivatives under Topic 815, Derivatives and Hedging, or that do not result in substantial premiums accounted for as paid-in capital. By removing the separation model, a convertible debt instrument will be reported as a single liability instrument with no separate accounting for embedded conversion features. This new standard also removes certain settlement conditions that are required for contracts to qualify for equity classification and eliminates the treasury stock method to calculate diluted earnings per share for convertible instruments and requires the use of the if-converted method. This new standard will be effective for us for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. Early adoption is permitted, but no earlier than the fiscal year beginning after December 15, 2020. We may elect to apply the amendments on a retrospective or modified retrospective basis. We are currently evaluating the timing, method of adoption and overall impact of this standard on our consolidated financial statements.

3. Asset Acquisitions, Collaborations and Disposition

Asset Acquisition and Exclusive License Agreement

In October 2020, we entered into an asset purchase and exclusive license agreement with SpringWorks Therapeutics, Inc., or SpringWorks, under which we acquired SpringWorks' fatty acid amide hydrolase, or FAAH, inhibitor program. Under the terms of the agreement, SpringWorks has assigned or exclusively licensed all assets relating to its FAAH inhibitor program to us, including assignment of SpringWorks' proprietary FAAH inhibitor PF-04457845, or PF-'845, now named JZP-150 and its license agreement with Pfizer, Inc., or Pfizer, under which Pfizer exclusively licensed PF-'845 to SpringWorks in 2017. In addition to assuming all milestone and royalty obligations owed by SpringWorks to Pfizer, we made an upfront payment of $35.0 million to SpringWorks, which was recorded as acquired in-process research and development, or IPR&D expense in our consolidated statement of income for the year ended December 31, 2020, and may make potential milestone payments to SpringWorks of up to $375.0 million upon the achievement of certain clinical, regulatory and commercial milestones, and pay incremental tiered royalties to SpringWorks on future net sales of JZP-150 in the mid- to high-single digit percentages.

License Agreement

In December 2019, we entered into an exclusive license agreement, or original license agreement, with Pharma Mar, S.A., or PharmaMar, for development and U.S. commercialization of Zepzelca. Zepzelca was granted orphan drug designation for relapsed SCLC by FDA in August 2018. In December 2019, PharmaMar submitted a new drug application, or NDA, to FDA for accelerated approval of Zepzelca for relapsed SCLC based on data from a Phase 2 trial, and in February 2020, FDA accepted the NDA for filing with priority review. In June 2020, FDA approved the NDA for Zepzelca for the treatment of adult patients with metastatic SCLC with disease progression on or after platinum-based chemotherapy.

Under the terms of the original license agreement, which became effective in January 2020 upon expiration of the waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, we paid PharmaMar an upfront payment of $200.0 million, which was recorded as acquired IPR&D expense in our consolidated statement of income for the year ended December 31, 2020. In June 2020, we made a milestone payment of $100.0 million to PharmaMar following FDA accelerated approval of Zepzelca, which was capitalized as an intangible asset on our consolidated balance sheet.

PharmaMar is eligible to receive potential future regulatory milestone payments of up to $150.0 million upon the achievement of continued U.S. regulatory approval of Zepzelca following the successful completion of confirmatory trials within certain timelines. PharmaMar is also eligible to receive up to $550.0 million in potential U.S. commercial milestone payments, as well as incremental tiered royalties on future net sales of Zepzelca ranging from the high teens up to 30 percent. PharmaMar may receive additional payments on approval of other indications, with any such payments creditable against

commercial milestone payment obligations. PharmaMar retains production rights for Zepzelca and will supply the product to us.

In October 2020, we entered into an amendment and restatement of the original license agreement with PharmaMar, or the amended license agreement, which expanded our exclusive license to include rights to develop and commercialize Zepzelca in Canada.

Asset Acquisition

In August 2019, we announced the acquisition of Cavion, Inc., or Cavion, a clinical-stage biotechnology company, for an upfront payment of $52.5 million with the potential for additional payments of up to $260.0 million upon the achievement of certain clinical, regulatory and commercial milestones, for a total potential consideration of $312.5 million. As a result of the acquisition, we added JZP-385, a modulator of T-type calcium channels, for the potential treatment of essential tremor, to our clinical pipeline. The acquisition of Cavion was accounted for as an asset acquisition because it did not meet the definition of a business.

The following table summarizes the total consideration for the acquisition and the value of assets acquired and liabilities assumed (in thousands):

Consideration		
Upfront payment for acquisition of Cavion's outstanding shares	$	52,500
Cash acquired		397
Working capital adjustment		(255)
Transaction costs		2,829
Total consideration	$	55,471
Assets Acquired and Liabilities Assumed		
Cash	$	397
In-process research and development		48,275
Deferred tax assets		7,995
Other assets and liabilities		(1,196)
Total net assets acquired	$	55,471

The value attributed to in-process research and development relates to JZP-385 and was expensed as it was determined to have no alternative future use.

Collaboration and License Agreement

In January 2019, we entered into a strategic collaboration agreement with Codiak BioSciences, Inc., or Codiak, focused on the research, development and commercialization of exosome therapeutics to treat cancer. Codiak granted us an exclusive, worldwide, royalty-bearing license to develop, manufacture and commercialize therapeutic candidates directed at five targets to be developed using Codiak's engEx™ precision engineering platform for exosome therapeutics.

Under the terms of the agreement, Codiak is responsible for the execution of preclinical and early clinical development of therapeutic candidates directed at all five targets through Phase 1/2 proof of concept studies. Following the conclusion of the applicable Phase 1/2 study, we will be responsible for future development, potential regulatory submissions and commercialization for each product. Codiak has the option to participate in co-commercialization and cost/profit-sharing in the U.S. and Canada on up to two products.

As part of the agreement, we paid Codiak an upfront payment of $56.0 million in January 2019, which was recorded as acquired IPR&D expense in our consolidated statement of income for the year ended December 31, 2019. Codiak is eligible to receive up to $20.0 million in preclinical development milestone payments. Codiak is also eligible to receive milestone payments totaling up to $200.0 million per target based on investigational new drug application acceptance, clinical and regulatory milestones, including approvals in the U.S., the European Union and Japan, and certain sales milestones. Codiak is also eligible to receive tiered royalties on net sales of each approved product.

Collaboration and Option Agreement

In 2017, we entered into a collaboration and option agreement with ImmunoGen, Inc. and we paid them a non-refundable upfront payment of $75.0 million, which was charged to acquired IPR&D expense upon closing of the transaction.

This agreement was amended in November 2019. Under the amended agreement we had the right to opt into an exclusive, worldwide license to develop and commercialize IMGN632, a CD123-targeted antibody-drug conjugate for hematological malignancies. In December 2020, we exercised our opt-out rights with respect to IMGN632, thereby relinquishing the development and commercialization option.

Disposition

In June 2018, we entered into an asset purchase agreement, or APA, with TerSera Therapeutics LLC, or TerSera, pursuant to which TerSera agreed to purchase substantially all of our assets related to the manufacture, marketing and sale of Prialt, but excluding accounts receivable, and to assume certain related liabilities as set forth in the APA. We entered into an amendment to the APA, and the transaction closed, in September 2018. The total sales price was $80.0 million, of which we received $50.0 million at closing and installment payments of $15.0 million, less certain reimbursable expenses, in December 2020 and December 2019.

The related assets met the assets held for sale criteria and were reclassified to assets held for sale as of June 30, 2018. We adjusted the carrying value of the assets held for sale to fair value less costs to sell, which resulted in an impairment charge of $42.9 million in our consolidated statement of income in 2018, primarily related to the carrying balance of intangible assets. Upon closing, we recognized a loss on disposal of $0.5 million within selling, general and administrative expenses in our consolidated statement of income in 2018.

We determined that the disposal of these assets did not qualify for reporting as a discontinued operation since it did not represent a strategic shift that had or will have a major effect on our operations and financial results.

4. Cash and Available-for-Sale Securities

Cash and cash equivalents and investments consisted of the following (in thousands):

	December 31, 2020					
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value	Cash and Cash Equivalents	Investments
Cash	$ 517,117	$ —	$ —	$ 517,117	$ 517,117	$ —
Time deposits	1,360,000	—	—	1,360,000	285,000	1,075,000
Money market funds	255,652	—	—	255,652	255,652	—
Totals	$ 2,132,769	$ —	$ —	$ 2,132,769	$ 1,057,769	$ 1,075,000

	December 31, 2019					
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value	Cash and Cash Equivalents	Investments
Cash	$ 333,172	$ —	$ —	$ 333,172	$ 333,172	$ —
Time deposits	460,000	—	—	460,000	20,000	440,000
Money market funds	284,172	—	—	284,172	284,172	—
Totals	$ 1,077,344	$ —	$ —	$ 1,077,344	$ 637,344	$ 440,000

Cash equivalents and investments are considered available-for-sale securities. Our investment balances represent time deposits with original maturities of greater than three months and less than one year. Interest income from available-for-sale securities was $11.1 million, $20.5 million and $16.9 million in 2020, 2019 and 2018, respectively.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

5. Fair Value Measurement

The following table summarizes, by major security type, our available-for-sale securities and derivative contracts that were measured at fair value on a recurring basis and were categorized using the fair value hierarchy (in thousands):

	December 31, 2020			December 31, 2019		
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Total Estimated Fair Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Total Estimated Fair Value
Assets:						
Available-for-sale securities:						
Time deposits	$ —	$ 1,360,000	$ 1,360,000	$ —	$ 460,000	$ 460,000
Money market funds	255,652	—	255,652	284,172	—	284,172
Foreign exchange forward contracts	—	11,907	11,907	—	2,508	2,508
Totals	$ 255,652	$ 1,371,907	$ 1,627,559	$ 284,172	$ 462,508	$ 746,680
Liabilities:						
Interest rate contracts	$ —	$ 2,835	$ 2,835	$ —	$ 1,515	$ 1,515
Foreign exchange forward contracts	—	790	790	—	182	182
Totals	$ —	$ 3,625	$ 3,625	$ —	$ 1,697	$ 1,697

As of December 31, 2020, our available-for-sale securities included time deposits and money market funds and their carrying values were approximately equal to their fair values. Time deposits were measured at fair value using Level 2 inputs and money market funds were measured using quoted prices in active markets, which represent Level 1 inputs. Level 2 inputs, obtained from various third party data providers, represent quoted prices for similar assets in active markets, or these inputs were derived from observable market data, or if not directly observable, were derived from or corroborated by other observable market data.

Our derivative assets and liabilities include interest rate and foreign exchange derivatives that are measured at fair value using observable market inputs such as forward rates, interest rates, our own credit risk as well as an evaluation of our counterparties' credit risks. Based on these inputs, the derivative assets and liabilities are classified within Level 2 of the fair value hierarchy.

There were no transfers between the different levels of the fair value hierarchy in 2020 or in 2019.

As of December 31, 2020 and 2019, the carrying amount of investments measured using the measurement alternative for equity investments without a readily determinable fair value was $4.5 million. The carrying amount, which is recorded within other non-current assets, represents the purchase price paid in 2018.

As of December 31, 2020, the estimated fair values of our 1.875% exchangeable senior notes due 2021, or the 2021 Notes, our 1.50% exchangeable senior notes due 2024, or the 2024 Notes, and our 2.00% exchangeable senior notes due 2026, or the 2026 Notes, were approximately $224 million, $615 million and $1.3 billion, respectively. The fair values of the 2021 Notes, the 2024 Notes and the 2026 Notes, which we refer to collectively as the Exchangeable Senior Notes, were estimated using quoted market prices obtained from brokers (Level 2). The estimated fair value of our borrowings under our term loan was approximately equal to its book value based on the borrowing rates currently available for variable rate loans (Level 2).

6. Derivative Instruments and Hedging Activities

We are exposed to certain risks arising from operating internationally, including fluctuations in interest rates on our outstanding term loan borrowings and fluctuations in foreign exchange rates primarily related to the translation of euro-denominated net monetary liabilities, including intercompany balances, held by subsidiaries with a U.S. dollar functional currency. We manage these exposures within specified guidelines through the use of derivatives. All of our derivative instruments are utilized for risk management purposes, and we do not use derivatives for speculative trading purposes.

To achieve a desired mix of floating and fixed interest rates on our variable rate debt, we entered into interest rate swap agreements in March 2017 which are effective until July 2021. These agreements hedge contractual term loan interest rates. As of December 31, 2020 and 2019, the interest rate swap agreements had a notional amount of $300.0 million. As a result of

these agreements, the interest rate on a portion of our term loan borrowings was fixed at 1.895%, plus the borrowing spread, until July 2021.

The effective portion of changes in the fair value of derivatives designated as, and that qualify as, cash flow hedges is recorded in accumulated other comprehensive loss and is subsequently reclassified into earnings in the period that the hedged forecasted transaction affects earnings. The impact on accumulated other comprehensive loss and earnings from derivative instruments that qualified as cash flow hedges was as follows (in thousands):

	Year Ended December 31,		
Interest Rate Contracts:	**2020**	**2019**	**2018**
Gain (loss) recognized in accumulated other comprehensive loss, net of tax	$ (4,543)	$ (3,903)	$ 2,274
Loss (gain) reclassified from accumulated other comprehensive loss to interest expense, net of tax	$ 3,401	$ (979)	$ (252)

Assuming no change in LIBOR-based interest rates from market rates as of December 31, 2020, $2.5 million of losses, net of tax, recognized in accumulated other comprehensive loss will be reclassified to earnings over the next 12 months.

We enter into foreign exchange forward contracts, with durations of up to 12 months, designed to limit the exposure to fluctuations in foreign exchange rates related to the translation of certain non-U.S. dollar denominated liabilities, including intercompany balances. Hedge accounting is not applied to these derivative instruments as gains and losses on these hedge transactions are designed to offset gains and losses on underlying balance sheet exposures. As of December 31, 2020 and 2019, the notional amount of foreign exchange contracts where hedge accounting was not applied was $357.4 million and $180.9 million, respectively.

The foreign exchange loss in our consolidated statements of income included the following gains and losses associated with foreign exchange contracts not designated as hedging instruments (in thousands):

	Year Ended December 31,		
Foreign Exchange Forward Contracts:	**2020**	**2019**	**2018**
Gain (loss) recognized in foreign exchange loss	$ 19,843	$ (6,192)	$ (14,648)

The cash flow effects of our derivative contracts are included within net cash provided by operating activities in the consolidated statements of cash flows.

The following tables summarize the fair value of outstanding derivatives (in thousands):

	December 31, 2020			
	Asset Derivatives		Liability Derivatives	
	Balance Sheet Location	**Fair Value**	**Balance Sheet Location**	**Fair Value**
Derivatives designated as hedging instruments:				
Interest rate contracts	Other current assets	$ —	Accrued liabilities	$ 2,835
Derivatives not designated as hedging instruments:				
Foreign exchange forward contracts	Other current assets	11,907	Accrued liabilities	790
Total fair value of derivative instruments		$ 11,907		$ 3,625

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

	December 31, 2019			
	Asset Derivatives		Liability Derivatives	
	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value
Derivatives designated as hedging instruments:				
Interest rate contracts	Other current assets	$ —	Accrued liabilities	$ 855
			Other non-current liabilities	660
Derivatives not designated as hedging instruments:				
Foreign exchange forward contracts	Other current assets	2,508	Accrued liabilities	182
Total fair value of derivative instruments		$ 2,508		$ 1,697

Although we do not offset derivative assets and liabilities within our consolidated balance sheets, our International Swap and Derivatives Association agreements provide for net settlement of transactions that are due to or from the same counterparty upon early termination of the agreement due to an event of default or other termination event. The following tables summarize the potential effect on our consolidated balance sheets of offsetting our interest rate contracts and foreign exchange forward contracts subject to such provisions (in thousands):

	December 31, 2020					
				Gross Amounts Not Offset in the Consolidated Balance Sheet		
Description	Gross Amounts of Recognized Assets/ Liabilities	Gross Amounts Offset in the Consolidated Balance Sheet	Net Amounts of Assets/ Liabilities Presented in the Consolidated Balance Sheet	Derivative Financial Instruments	Cash Collateral Received (Pledged)	Net Amount
Derivative assets	$ 11,907	$ —	$ 11,907	$ (2,207)	$ —	$ 9,700
Derivative liabilities	$ (3,625)	$ —	$ (3,625)	$ 2,207	$ —	$ (1,418)

	December 31, 2019					
				Gross Amounts Not Offset in the Consolidated Balance Sheet		
Description	Gross Amounts of Recognized Assets/ Liabilities	Gross Amounts Offset in the Consolidated Balance Sheet	Net Amounts of Assets/ Liabilities Presented in the Consolidated Balance Sheet	Derivative Financial Instruments	Cash Collateral Received (Pledged)	Net Amount
Derivative assets	$ 2,508	$ —	$ 2,508	$ (596)	$ —	$ 1,912
Derivative liabilities	$ (1,697)	$ —	$ (1,697)	$ 596	$ —	$ (1,101)

7. Inventories

Inventories consisted of the following (in thousands):

	December 31,	
	2020	2019
Raw materials	$ 16,003	$ 13,595
Work in process	45,758	36,658
Finished goods	33,635	28,355
Total inventories	$ 95,396	$ 78,608

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

8. Property, Plant and Equipment

Property, plant and equipment consisted of the following (in thousands):

	December 31,	
	2020	2019
Leasehold improvements	$ 54,113	$ 52,294
Land and buildings	47,555	47,053
Manufacturing equipment and machinery	33,465	28,860
Computer software	22,781	25,680
Computer equipment	18,749	16,577
Furniture and fixtures	11,598	11,152
Construction-in-progress	7,262	5,147
Subtotal	195,523	186,763
Less accumulated depreciation and amortization	(67,588)	(55,257)
Property, plant and equipment, net	$ 127,935	$ 131,506

Depreciation and amortization expense on property, plant and equipment amounted to $18.7 million, $15.3 million and $15.2 million for the years ended December 31, 2020, 2019 and 2018, respectively.

9. Goodwill and Intangible Assets

The gross carrying amount of goodwill was as follows (in thousands):

Balance at December 31, 2019	$ 920,018
Foreign exchange	38,285
Balance at December 31, 2020	$ 958,303

The gross carrying amounts and net book values of our intangible assets were as follows (in thousands):

	December 31, 2020				December 31, 2019		
	Remaining Weighted-Average Useful Life (In years)	Gross Carrying Amount	Accumulated Amortization	Net Book Value	Gross Carrying Amount	Accumulated Amortization	Net Book Value
Acquired developed technologies	12.6	$ 3,379,162	$ (1,184,111)	$ 2,195,051	$ 3,166,485	$ (864,834)	$ 2,301,651
Manufacturing contracts	—	13,135	(13,135)	—	12,025	(12,025)	—
Trademarks	—	2,917	(2,917)	—	2,890	(2,890)	—
Priority review voucher	—	—	—	—	111,101	(111,101)	—
Total finite-lived intangible assets		3,395,214	(1,200,163)	2,195,051	3,292,501	(990,850)	2,301,651
Acquired IPR&D assets		—	—	—	139,326	—	139,326
Total intangible assets		$ 3,395,214	$ (1,200,163)	$ 2,195,051	$ 3,431,827	$ (990,850)	$ 2,440,977

The decrease in the gross carrying amount of intangible assets as of December 31, 2020 compared to December 31, 2019 reflects the impairment of our acquired IPR&D assets of $136.1 million following the decision to stop enrollment in our Phase 3 clinical study of defibrotide for the prevention of VOD due to a determination that the study is highly unlikely to reach one of its primary endpoints and the redemption of our priority review voucher in January 2020, partially offset by the capitalization of milestone payments of $100.0 million and $13.0 million triggered by FDA approval of Zepzelca in June 2020 and European Marketing Authorization of Sunosi in January 2020, respectively, and the positive impact of foreign currency translation adjustments due to the strengthening of the euro against the U.S. dollar.

The assumptions and estimates used to determine future cash flows and remaining useful lives of our intangible and other long-lived assets are complex and subjective. They can be affected by various factors, including external factors, such as industry and economic trends, and internal factors such as changes in our business strategy and our forecasts for specific product lines.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Based on finite-lived intangible assets recorded as of December 31, 2020, and assuming the underlying assets will not be impaired and that we will not change the expected lives of any other assets, future amortization expenses were estimated as follows (in thousands):

Year Ending December 31,	Estimated Amortization Expense
2021	$ 223,608
2022	174,468
2023	174,468
2024	174,468
2025	174,468
Thereafter	1,273,571
Total	$ 2,195,051

10. Accrued Liabilities

Accrued liabilities consisted of the following (in thousands):

	December 31,	
	2020	2019
Rebates and other sales deductions	$ 127,534	$ 96,860
Employee compensation and benefits	102,601	80,531
Sales returns reserve	18,368	3,462
Royalties	15,230	6,931
Current portion of operating lease liabilities	14,457	12,728
Inventory-related accruals	9,809	7,816
Clinical trial accruals	9,108	3,141
Selling and marketing accruals	6,742	10,946
Consulting and professional services	6,660	7,665
Accrued interest	5,722	7,540
Derivative instrument liabilities	3,625	1,037
Accrued construction-in-progress	1,119	3,015
Accrued collaboration expenses	444	2,494
Other	31,313	25,520
Total accrued liabilities	$ 352,732	$ 269,686

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

11. Debt

The following table summarizes the carrying amount of our indebtedness (in thousands):

	December 31,	
	2020	2019
2021 Notes	$ 218,812	$ 575,000
Unamortized discount and debt issuance costs on 2021 Notes	(5,883)	(38,865)
2021 Notes, net	212,929	536,135
2024 Notes	575,000	575,000
Unamortized discount and debt issuance costs on 2024 Notes	(95,275)	(117,859)
2024 Notes, net	479,725	457,141
2026 Notes	1,000,000	—
Unamortized discount and debt issuance costs on 2026 Notes	(179,518)	—
2026 Notes, net	820,482	—
Term loan	581,702	613,981
Total debt	2,094,838	1,607,257
Less current portion	246,322	33,387
Total long-term debt	$ 1,848,516	$ 1,573,870

Credit Agreement

On June 18, 2015, Jazz Pharmaceuticals plc, as guarantor, and certain of our wholly owned subsidiaries, as borrowers, entered into a credit agreement, or the 2015 credit agreement, that provided for a $750.0 million principal amount term loan, which was drawn in full at closing, and a $750.0 million revolving credit facility, of which $160.0 million was drawn at closing and subsequently repaid. We used the proceeds from initial borrowings under the 2015 credit agreement to repay in full the $893.1 million principal amount of term loans outstanding under the credit agreement that we entered into in June 2012, as subsequently amended, which we refer to as the previous credit agreement, and to pay related fees and expenses. The previous credit agreement was terminated upon repayment of the term loans outstanding thereunder.

On July 12, 2016, we amended the 2015 credit agreement to provide for a revolving credit facility of $1.25 billion and a $750.0 million term loan facility. We used the proceeds of $1.0 billion of loans under the revolving credit facility, together with cash on hand, to fund the acquisition of Celator Pharmaceuticals, Inc., or the Celator Acquisition.

On June 7, 2018, we entered into the second amendment to the 2015 credit agreement to provide for a revolving credit facility of $1.6 billion, which replaced the existing revolving credit facility of $1.25 billion, and a new $667.7 million term loan facility, which replaced the $750.0 million term loan facility, of which $584.3 million principal amount was outstanding as of December 31, 2020. We refer to the 2015 credit agreement as amended by the first and second amendments as the amended credit agreement.

Under the amended credit agreement, the term loan matures on June 7, 2023 and the revolving credit facility terminates, and any loans outstanding thereunder become due and payable, on June 7, 2023.

Borrowings under the amended credit agreement bear interest, at our option, at a rate equal to either (a) the LIBOR rate, plus an applicable margin ranging from 1.375% to 1.750% per annum, based upon our secured leverage ratio, or (b) the prime lending rate, plus an applicable margin ranging from 0.375% to 0.750% per annum, based upon our secured leverage ratio. The revolving credit facility has a commitment fee payable on the undrawn amount ranging from 0.25% to 0.35% per annum based upon our secured leverage ratio.

As of December 31, 2020, the interest rate on the term loan was 1.52% and the effective interest rate was 3.66%. As of December 31, 2020, we had undrawn revolving credit facilities totaling $1.6 billion.

Jazz Pharmaceuticals plc and certain of our wholly owned subsidiaries are borrowers under the amended credit agreement. The borrowers' obligations under the amended credit agreement and any hedging or cash management obligations entered into with a lender are guaranteed on a senior secured basis by Jazz Pharmaceuticals plc and certain of our subsidiaries

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

(including the issuer of the Exchangeable Senior Notes as described below) and are secured by substantially all of Jazz Pharmaceuticals plc's, the borrowers' and the guarantor subsidiaries' assets.

We may make voluntary prepayments of principal at any time without payment of a premium. We are required to make mandatory prepayments of the term loan (without payment of a premium) with (1) net cash proceeds from certain non-ordinary course asset sales (subject to other exceptions), (2) net cash proceeds from issuances of debt (other than certain permitted debt), and (3) casualty proceeds and condemnation awards (subject to other exceptions).

Principal repayments of the term loan, which are due quarterly, are equal to 5.0% per annum of the principal amount outstanding on June 7, 2018 of $667.7 million, with any remaining balance payable on the maturity date.

The amended credit agreement contains financial covenants that require Jazz Pharmaceuticals plc and our restricted subsidiaries to not (a) exceed a maximum secured net leverage ratio or (b) fall below a cash interest coverage ratio. As of December 31, 2020, we were in compliance with these financial covenants.

Exchangeable Senior Notes Due 2026

In the second quarter of 2020, Jazz Investments I Limited, our wholly owned subsidiary, completed a private placement of $1.0 billion principal amount of the 2026 Notes. We used a portion of the net proceeds from this offering to repurchase for cash $332.9 million aggregate principal amount of the 2021 Notes through privately-negotiated transactions concurrently with the offering of the 2026 Notes. Interest on the 2026 Notes is payable semi-annually in cash in arrears on June 15 and December 15 of each year, beginning on December 15, 2020, at a rate of 2.00% per year. In certain circumstances, we may be required to pay additional amounts as a result of any applicable tax withholding or deductions required in respect of payments on the 2026 Notes. The 2026 Notes mature on June 15, 2026, unless earlier exchanged, repurchased or redeemed.

The holders of the 2026 Notes have the ability to require us to repurchase all or a portion of their 2026 Notes for cash in the event we undergo certain fundamental changes, such as specified change of control transactions, our liquidation or dissolution or the delisting of our ordinary shares from any of The New York Stock Exchange, The Nasdaq Global Market, The Nasdaq Global Select Market or The Nasdaq Capital Market (or any of their respective successors). Additionally, the terms and covenants in the indenture related to the 2026 Notes include certain events of default after which the 2026 Notes may be due and payable immediately. Prior to June 15, 2026, we may redeem the 2026 Notes, in whole but not in part, subject to compliance with certain conditions, if we have, or on the next interest payment date would, become obligated to pay to the holder of any 2026 Notes additional amounts as a result of certain tax-related events. We also may redeem the 2026 Notes on or after June 20, 2023 and prior to March 15, 2026, in whole or in part, if the last reported sale price per ordinary share has been at least 130% of the exchange price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period ending on, and including, the trading day immediately preceding the date on which we provide the notice of redemption.

The 2026 Notes are exchangeable at an initial exchange rate of 6.4182 ordinary shares per $1,000 principal amount of 2026 Notes, which is equivalent to an initial exchange price of approximately $155.81 per ordinary share. Upon exchange, the 2026 Notes may be settled in cash, ordinary shares or a combination of cash and ordinary shares, at our election. Our intent and policy is to settle the principal amount of the 2026 Notes in cash upon exchange. The exchange rate will be subject to adjustment in some events but will not be adjusted for any accrued and unpaid interest. In addition, following certain make-whole fundamental changes occurring prior to the maturity date of the 2026 Notes or upon our issuance of a notice of redemption, we will in certain circumstances increase the exchange rate for holders of the 2026 Notes who elect to exchange their 2026 Notes in connection with that make-whole fundamental change or during the related redemption period. Prior to March 15, 2026, the 2026 Notes will be exchangeable only upon satisfaction of certain conditions and during certain periods, and thereafter, at any time until the close of business on the second scheduled trading day immediately preceding the maturity date.

In accounting for the issuance of the 2026 Notes, we separated the 2026 Notes into liability and equity components. The carrying amount of the liability component was calculated by measuring the estimated fair value of a similar liability that does not have an associated exchange feature. The carrying amount of the equity component representing the exchange option was determined by deducting the fair value of the liability component from the face value of the 2026 Notes as a whole. The excess of the principal amount of the liability component over its carrying amount will be amortized to interest expense over the expected life of the 2026 Notes using the effective interest method with an effective interest rate of 5.98% per annum. We have determined the expected life of the 2026 Notes to be equal to the original 6-year term. The equity component is not remeasured as long as it continues to meet the conditions for equity classification. As of December 31, 2020, the "if converted value" of the 2026 Notes exceeded the principal amount by $59.3 million.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

We allocated the total issuance costs incurred of $18.6 million to the liability and equity components based on their relative values. Issuance costs attributable to the liability component will be amortized to expense over the term of the 2026 Notes, and issuance costs attributable to the equity component were included with the equity component in our shareholders' equity.

As of December 31, 2020, the carrying value of the equity component of the 2026 Notes, net of equity issuance costs, was $176.3 million.

Exchangeable Senior Notes Due 2024

In 2017, we completed a private placement of $575.0 million principal amount of 2024 Notes. We used the net proceeds from this offering to repay $500.0 million in outstanding loans under the revolving credit facility and to pay related fees and expenses. We used the remainder of the net proceeds for general corporate purposes. Interest on the 2024 Notes is payable semi-annually in cash in arrears on February 15 and August 15 of each year, beginning on February 15, 2018, at a rate of 1.50% per year. In certain circumstances, we may be required to pay additional amounts as a result of any applicable tax withholding or deductions required in respect of payments on the 2024 Notes. The 2024 Notes mature on August 15, 2024, unless earlier exchanged, repurchased or redeemed.

The holders of the 2024 Notes have the ability to require us to repurchase all or a portion of their 2024 Notes for cash in the event we undergo certain fundamental changes, such as specified change of control transactions, our liquidation or dissolution or the delisting of our ordinary shares from The Nasdaq Global Select Market. Prior to August 15, 2024, we may redeem the 2024 Notes, in whole but not in part, subject to compliance with certain conditions, if we have, or on the next interest payment date would, become obligated to pay to the holder of any 2024 Notes additional amounts as a result of certain tax-related events. We also may redeem the 2024 Notes on or after August 20, 2021, in whole or in part, if the last reported sale price per ordinary share has been at least 130% of the exchange price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period ending on, and including, the trading day immediately preceding the date on which we provide the notice of redemption.

The 2024 Notes are exchangeable at an initial exchange rate of 4.5659 ordinary shares per $1,000 principal amount of 2024 Notes, which is equivalent to an initial exchange price of approximately $219.02 per ordinary share. Upon exchange, the 2024 Notes may be settled in cash, ordinary shares or a combination of cash and ordinary shares, at our election. Our intent and policy is to settle the principal amount of the 2024 Notes in cash upon exchange. The exchange rate will be subject to adjustment in some events but will not be adjusted for any accrued and unpaid interest. In addition, following certain make-whole fundamental changes occurring prior to the maturity date of the 2024 Notes or upon our issuance of a notice of redemption, we will in certain circumstances increase the exchange rate for holders of the 2024 Notes who elect to exchange their 2024 Notes in connection with that make-whole fundamental change or during the related redemption period. Prior to May 15, 2024, the 2024 Notes will be exchangeable only upon satisfaction of certain conditions and during certain periods, and thereafter, at any time until the close of business on the second scheduled trading day immediately preceding the maturity date.

In accounting for the issuance of the 2024 Notes, we separated the 2024 Notes into liability and equity components. The carrying amount of the liability component was calculated by measuring the estimated fair value of a similar liability that does not have an associated exchange feature. The carrying amount of the equity component representing the exchange option was determined by deducting the fair value of the liability component from the face value of the 2024 Notes as a whole. The excess of the principal amount of the liability component over its carrying amount will be amortized to interest expense over the expected life of the 2024 Notes using the effective interest method with an effective interest rate of 6.8% per annum. We have determined the expected life of the 2024 Notes to be equal to the original seven-year term. The equity component is not remeasured as long as it continues to meet the conditions for equity classification. As of December 31, 2020 and 2019, the "if-converted value" did not exceed the principal amount of the 2024 Notes.

We allocated the total issuance costs incurred of $15.6 million to the liability and equity components based on their relative values. Issuance costs attributable to the liability component will be amortized to expense over the term of the 2024 Notes, and issuance costs attributable to the equity component were included with the equity component in our shareholders' equity.

As of December 31, 2020 and 2019, the carrying value of the equity component of the 2024 Notes, net of equity issuance costs, was $149.8 million.

Exchangeable Senior Notes Due 2021

In 2014, we completed a private placement of the 2021 Notes. Interest on the 2021 Notes is payable semi-annually in cash in arrears on February 15 and August 15 of each year, beginning on February 15, 2015, at a rate of 1.875% per year. In certain circumstances, we may be required to pay additional amounts as a result of any applicable tax withholding or deductions

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

required in respect of payments on the 2021 Notes. The 2021 Notes mature on August 15, 2021, unless earlier exchanged, repurchased or redeemed.

The holders of the 2021 Notes have the ability to require us to repurchase all or a portion of their 2021 Notes for cash in the event Jazz Pharmaceuticals plc undergoes certain fundamental changes. Prior to August 15, 2021, we may redeem the 2021 Notes, in whole but not in part, subject to compliance with certain conditions, if we have, or on the next interest payment date would, become obligated to pay to the holder of any 2021 Note additional amounts as a result of certain tax-related events. We also may redeem the 2021 Notes on or after August 20, 2018, in whole or in part, if the last reported sale price per ordinary share has been at least 130% of the exchange price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period ending on, and including, the trading day immediately preceding the date on which we provide the notice of redemption.

The 2021 Notes are exchangeable at an initial exchange rate of 5.0057 ordinary shares per $1,000 principal amount of 2021 Notes, which is equivalent to an initial exchange price of approximately $199.77 per ordinary share. Upon exchange, the 2021 Notes may be settled in cash, ordinary shares or a combination of cash and ordinary shares, at our election. Our intent and policy is to settle the principal amount of the 2021 Notes in cash upon exchange. The exchange rate will be subject to adjustment in some events but will not be adjusted for any accrued and unpaid interest. In addition, following certain make-whole fundamental changes occurring prior to the maturity date of the 2021 Notes or upon our issuance of a notice of redemption, we will in certain circumstances increase the exchange rate for holders of the 2021 Notes who elect to exchange their 2021 Notes in connection with that make-whole fundamental change or during the related redemption period. Prior to February 15, 2021, the 2021 Notes will be exchangeable only upon satisfaction of certain conditions and during certain periods, and thereafter, at any time until the close of business on the second scheduled trading day immediately preceding the maturity date.

In accounting for the issuance of the 2021 Notes, we separated the 2021 Notes into liability and equity components. The carrying amount of the liability component was calculated by measuring the estimated fair value of a similar liability that does not have an associated exchange feature. The carrying amount of the equity component representing the exchange option was determined by deducting the fair value of the liability component from the face value of the 2021 Notes as a whole. The excess of the principal amount of the liability component over its carrying amount will be amortized to interest expense over the expected life of the 2021 Notes using the effective interest method with an effective interest rate of 6.4% per annum. We have determined the expected life of the 2021 Notes to be equal to the original seven-year term. The equity component is not remeasured as long as it continues to meet the conditions for equity classification. As of December 31, 2020 and 2019, the "if-converted value" did not exceed the principal amount of the 2021 Notes.

We allocated the total issuance costs incurred of $16.1 million to the liability and equity components based on their relative values. Issuance costs attributable to the liability component will be amortized to expense over the term of the 2021 Notes, and issuance costs attributable to the equity component were included with the equity component in our shareholders' equity.

Concurrently with the offering of the 2026 Notes, we repurchased $332.9 million aggregate principal amount of the 2021 Notes. In the third quarter of 2020, we repurchased a further $23.3 million aggregate principal amount of the 2021 Notes. We recorded a loss on extinguishment of debt of $5.1 million in 2020 due to the write-off of unamortized debt issuance costs and debt discount related to the partial repurchase of the 2021 Notes. We accounted for the difference between the consideration transferred and the fair value of the liability component of the 2021 Notes that were repurchased, of $12.5 million, as a reduction to the equity component. As of December 31, 2020, the principal amount of the 2021 Notes remaining was $218.8 million.

As of December 31, 2020 and 2019, the carrying value of the equity component of the 2021 Notes, net of equity issuance costs, was $114.4 million and $126.9 million respectively.

The Exchangeable Senior Notes were issued by Jazz Investments I Limited, or the Issuer, a 100%-owned finance subsidiary of Jazz Pharmaceuticals plc. The Exchangeable Senior Notes are senior unsecured obligations of the Issuer and are fully and unconditionally guaranteed on a senior unsecured basis by Jazz Pharmaceuticals plc. No subsidiary of Jazz Pharmaceuticals plc guaranteed the Exchangeable Senior Notes. Subject to certain local law restrictions on payment of dividends, among other things, and potential negative tax consequences, we are not aware of any significant restrictions on the ability of Jazz Pharmaceuticals plc to obtain funds from the Issuer or Jazz Pharmaceuticals plc's other subsidiaries by dividend or loan, or any legal or economic restrictions on the ability of the Issuer or Jazz Pharmaceuticals plc's other subsidiaries to transfer funds to Jazz Pharmaceuticals plc in the form of cash dividends, loans or advances. There is no assurance that in the future such restrictions will not be adopted.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

For the years ended December 31, 2020, 2019 and 2018, we recognized $76.1 million, $59.1 million and $56.7 million, respectively, in interest expense, net related to the contractual coupon rate and amortization of the debt discount on the Exchangeable Senior Notes.

Scheduled maturities with respect to our long-term debt are as follows (in thousands):

Year Ending December 31,	Scheduled Long-Term Debt Maturities
2021	$ 252,199
2022	33,387
2023	517,494
2024	575,000
Thereafter	1,000,000
Total	$ 2,378,080

12. Leases

We have noncancelable operating leases for our office buildings and we are obligated to make payments under noncancelable operating leases for automobiles used by our sales force.

The components of the lease expense for the years ended December 31, 2020 and 2019 were as follows (in thousands):

	Year Ended December 31,	
Lease Cost	**2020**	**2019**
Operating lease cost	$ 21,755	$ 23,087
Short-term lease cost	4,079	2,465
Variable lease cost	3	5
Sublease income	(224)	(634)
Net lease cost	$ 25,613	$ 24,923

Supplemental balance sheet information related to operating leases was as follows (in thousands):

		December 31,	
Leases	**Classification**	**2020**	**2019**
Assets			
Operating lease assets	Operating lease assets	$ 129,169	$ 139,385
Liabilities			
Current			
Operating lease liabilities	Accrued liabilities	14,457	12,728
Non-current			
Operating lease liabilities	Operating lease liabilities, less current portion	140,035	151,226
Total operating lease liabilities		$ 154,492	$ 163,954

	December 31,	
Lease Term and Discount Rate	**2020**	**2019**
Weighted-average remaining lease term - operating leases (years)	8.7	9.7
Weighted-average discount rate - operating leases	5.3%	5.3%

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Supplemental cash flow information related to operating leases was as follows (in thousands):

	Year Ended December 31,	
	2020	2019
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash outflows from operating leases	$ 21,678	$ 17,066
Non-cash operating activities:		
Operating lease assets obtained in exchange for new operating lease liabilities (1)	$ 1,763	$ 153,448

(1) Includes the balances recognized on January 1, 2019 on adoption of ASU No. 2016-02.

Maturities of operating lease liabilities were as follows (in thousands):

Year Ending December 31,	Operating leases
2021	$ 22,393
2022	22,353
2023	22,419
2024	24,277
2025	18,404
Thereafter	86,495
Total lease payments	$ 196,341
Less imputed interest	(41,849)
Present value of lease liabilities	$ 154,492

13. Commitments and Contingencies

Indemnification

In the normal course of business, we enter into agreements that contain a variety of representations and warranties and provide for general indemnification, including indemnification associated with product liability or infringement of intellectual property rights. Our exposure under these agreements is unknown because it involves future claims that may be made but have not yet been made against us. To date, we have not paid any claims or been required to defend any action related to these indemnification obligations.

We have agreed to indemnify our executive officers, directors and certain other employees for losses and costs incurred in connection with certain events or occurrences, including advancing money to cover certain costs, subject to certain limitations. The maximum potential amount of future payments we could be required to make under the indemnification obligations is unlimited; however, we maintain insurance policies that may limit our exposure and may enable us to recover a portion of any future amounts paid. Assuming the applicability of coverage, the willingness of the insurer to assume coverage, and subject to certain retention, loss limits and other policy provisions, we believe the fair value of these indemnification obligations is not significant. Accordingly, we did not recognize any liabilities relating to these obligations as of December 31, 2020 and December 31, 2019. No assurances can be given that the covering insurers will not attempt to dispute the validity, applicability, or amount of coverage without expensive litigation against these insurers, in which case we may incur substantial liabilities as a result of these indemnification obligations.

Other Commitments

As of December 31, 2020, we had $112.0 million of noncancelable purchase commitments due within one year, primarily related to agreements with third party manufacturers.

Legal Proceedings

From June to September 2020, a number of class action lawsuits were filed on behalf of purported direct and indirect Xyrem purchasers, alleging that the patent litigation settlement agreements we entered with Hikma and other ANDA filers violate state and federal antitrust and consumer protection laws, as follows:

On June 17, 2020, a class action lawsuit was filed in the United States District Court for the Northern District of Illinois by Blue Cross and Blue Shield Association, or BCBS, against Jazz Pharmaceuticals plc, Jazz Pharmaceuticals, Inc., and Jazz Pharmaceuticals Ireland Limited, or, collectively, the Company Defendants (hereinafter referred to as the BCBS Lawsuit). The BCBS Lawsuit also names Roxane Laboratories, Inc., Hikma Pharmaceuticals USA Inc., Eurohealth (USA), Inc., Hikma

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Pharmaceuticals plc, Amneal Pharmaceuticals LLC, Par Pharmaceuticals, Inc., Lupin Ltd., Lupin Pharmaceuticals Inc., and Lupin Inc., or, collectively, the BCBS Defendants.

On June 18 and June 23, 2020, respectively, two additional class action lawsuits were filed against the Company Defendants and the BCBS Defendants: one by the New York State Teamsters Council Health and Hospital Fund in the United States District Court for the Northern District of California, and another by the Government Employees Health Association Inc. in the United States District Court for the Northern District of Illinois (hereinafter referred to as the GEHA Lawsuit).

On June 18, 2020, a class action lawsuit was filed in the United States District Court for the Northern District of California by the City of Providence, Rhode Island, on behalf of itself and all others similarly situated, against Jazz Pharmaceuticals plc, and Roxane Laboratories, Inc., West-Ward Pharmaceuticals Corp., Hikma Labs Inc., Hikma Pharmaceuticals USA Inc., and Hikma Pharmaceuticals plc, or, collectively, the City of Providence Defendants.

On June 30, 2020, a class action lawsuit was filed in the United States District Court for the Northern District of Illinois by UFCW Local 1500 Welfare Fund on behalf of itself and all others similarly situated, against Jazz Pharmaceuticals Ireland Ltd., Jazz Pharmaceuticals, Inc., Roxane Laboratories, Inc., Hikma Pharmaceuticals plc, Eurohealth (USA), Inc. and West-Ward Pharmaceuticals Corp., or collectively the UFCW Defendants (hereinafter referred to as the UFCW Lawsuit).

On July 13, 2020, the plaintiffs in the BCBS Lawsuit and the GEHA Lawsuit dismissed their complaints in the United States District Court for the Northern District of Illinois, and refiled their respective lawsuits in the United States District Court for the Northern District of California. On July 14, 2020, the plaintiffs in the UFCW Lawsuit dismissed their complaint in the United States District Court for the Northern District of Illinois and on July 15, 2020, refiled their lawsuit in the United States District Court for the Northern District of California.

On July 31, 2020, a class action lawsuit was filed in the United States District Court for the Southern District of New York by the A.F. of L.-A.G.C Building Trades Welfare Plan on behalf of itself and all others similarly situated, against Jazz Pharmaceuticals plc (hereinafter referred to as the AFL Plan Lawsuit). The AFL Plan Lawsuit also names Roxane Laboratories Inc., West-Ward Pharmaceuticals Corp., Hikma Labs Inc., Hikma Pharmaceuticals plc, Amneal Pharmaceuticals LLC, Par Pharmaceuticals Inc., Lupin Ltd., Lupin Pharmaceuticals, Inc., and Lupin Inc.

On August 14, 2020, an additional class action lawsuit was filed in the United States District Court for the Southern District of New York by the Self-Insured Schools of California on behalf of itself and all others similarly situated, against the Company Defendants, as well as Hikma Pharmaceuticals plc, Eurohealth (USA) Inc., Hikma Pharmaceuticals USA, Inc., West-Ward Pharmaceuticals Corp., Roxane Laboratories, Inc., Amneal Pharmaceuticals LLC, Endo International, plc, Endo Pharmaceuticals LLC, Par Pharmaceutical, Inc., Lupin Ltd., Lupin Pharmaceuticals Inc., Lupin Inc., Sun Pharmaceutical Industries Ltd., Sun Pharmaceutical Holdings USA, Inc., Sun Pharmaceutical Industries, Inc., Ranbaxy Laboratories Ltd., Teva Pharmaceutical Industries Ltd., Watson Laboratories, Inc., Wockhardt Ltd., Morton Grove Pharmaceuticals, Inc., Wockhardt USA LLC, Mallinckrodt plc, and Mallinckrodt LLC (hereinafter the Self-Insured Schools Lawsuit).

On September 16, 2020, an additional class action lawsuit was filed in the United States District Court for the Northern District of California, by Ruth Hollman on behalf of herself and all others similarly situated, against the same defendants named in the Self-Insured Schools Lawsuit.

The plaintiffs in certain of these lawsuits are seeking to represent a class of direct purchasers of Xyrem, and the plaintiffs in the remaining lawsuits are seeking to represent a class of indirect purchasers of Xyrem. Each of the lawsuits generally alleges violations of U.S. federal and state antitrust, consumer protection, and unfair competition laws in connection with the Company Defendants' conduct related to Xyrem, including actions leading up to, and entering into, patent litigation settlement agreements with each of the other named defendants. Each of the lawsuits seeks monetary damages, exemplary damages, equitable relief against the alleged unlawful conduct, including disgorgement of profits and restitution, and injunctive relief. It is possible that additional lawsuits will be filed against the Company Defendants making similar or related allegations. If the plaintiffs were to be successful in their claims, they may be entitled to injunctive relief or we may be required to pay significant monetary damages, which could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

In December 2020, these cases were centralized and transferred to the United States District Court for the Northern District of California, where the multidistrict litigation will proceed for the purpose of discovery and pre-trial proceedings. In January 2021, the Court issued a Case Management Order that schedules this case for trial in February 2023.

From time to time we are involved in legal proceedings arising in the ordinary course of business. We believe there is no other litigation pending that could have, individually or in the aggregate, a material adverse effect on our results of operations or financial condition.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

14. Shareholders' Equity

Share Repurchase Program

In November 2016, our board of directors authorized a share repurchase program and as of December 31, 2020 had authorized the repurchase of up to $1.5 billion, exclusive of any brokerage commissions. Under this program, which has no expiration date, we may repurchase ordinary shares from time to time on the open market. The timing and amount of repurchases will depend on a variety of factors, including the price of our ordinary shares, alternative investment opportunities, restrictions under the amended credit agreement, corporate and regulatory requirements and market conditions. The share repurchase program may be modified, suspended or discontinued at any time without prior notice. In 2020, we spent a total of $146.5 million to repurchase 1.2 million of our ordinary shares at an average total purchase price, including brokerage commissions, of $121.98 per share. In 2019, we spent a total of $301.5 million to repurchase 2.3 million of our ordinary shares at an average total purchase price, including brokerage commissions, of $133.97 per share. All ordinary shares repurchased were canceled. As of December 31, 2020, the remaining amount authorized under the share repurchase program was $431.2 million.

Authorized But Unissued Ordinary Shares

We had reserved the following shares of authorized but unissued ordinary shares (in thousands):

	December 31,	
	2020	2019
2011 Equity Incentive Plan	21,070	19,552
2007 Employee Stock Purchase Plan	2,600	1,883
Amended and Restated 2007 Non-Employee Directors Stock Award Plan	889	438
Amended and Restated Directors Deferred Compensation Plan	—	178
2007 Equity Incentive Plan	5	13
Total	24,564	22,064

Dividends

In 2020 and 2019, we did not declare or pay cash dividends on our common equity. Under Irish law, dividends may only be paid, and share repurchases and redemptions must generally be funded only out of, "distributable reserves." In addition, the terms of our credit agreement restrict our ability to make certain restricted payments, including dividends and other distributions by us in respect of our ordinary shares, subject to, among other exceptions, (1) a general exception for dividends and restricted payments up to $30 million in the aggregate and (2) an exception that allows for restricted payments, subject to a cap equal to the sum of (i) $100 million plus (ii) so long as our secured leverage ratio (as defined in our credit agreement) does not exceed 3:1 after giving pro forma effect to the restricted payment, a formula-based amount tied to our consolidated net income; provided that such cap applies only if our total leverage ratio (as defined in our credit agreement) exceeds 2:1 after giving pro forma effect to the restricted payment. Any future determination as to the payment of dividends will, subject to Irish legal requirements, be at the sole discretion of our board of directors and will depend on our consolidated financial condition, results of operations, capital requirements, compliance with the terms our credit agreement or other future borrowing arrangements, and other factors our board of directors deems relevant.

15. Comprehensive Income (Loss)

Comprehensive income (loss) includes net income and all changes in shareholders' equity during a period, except for those changes resulting from investments by shareholders or distributions to shareholders.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Accumulated Other Comprehensive Loss

The components of accumulated other comprehensive loss as of December 31, 2020 and 2019 were as follows (in thousands):

	Net Unrealized Loss From Hedging Activities	Foreign Currency Translation Adjustments	Total Accumulated Other Comprehensive Loss
Balance at December 31, 2019	$ (1,325)	$ (222,068)	$ (223,393)
Other comprehensive income (loss) before reclassifications	(4,543)	90,183	85,640
Amounts reclassified from accumulated other comprehensive loss	3,401	—	3,401
Other comprehensive income (loss), net	(1,142)	90,183	89,041
Balance at December 31, 2020	$ (2,467)	$ (131,885)	$ (134,352)

In 2020, other comprehensive income reflects foreign currency translation adjustments, primarily due to the strengthening of the euro against the U.S. dollar, and the net unrealized loss on derivatives that qualify as cash flow hedges.

16. Net Income per Ordinary Share

Basic net income per ordinary share is based on the weighted-average number of ordinary shares outstanding. Diluted net income per ordinary share is based on the weighted-average number of ordinary shares outstanding and potentially dilutive ordinary shares outstanding.

Basic and diluted net income per ordinary share were computed as follows (in thousands, except per share amounts):

	Year Ended December 31,		
	2020	2019	2018
Numerator:			
Net income	$ 238,616	$ 523,367	$ 447,098
Denominator:			
Weighted-average ordinary shares used in per share calculations - basic	55,712	56,749	59,976
Dilutive effect of employee equity incentive and purchase plans	805	801	1,245
Weighted-average ordinary shares used in per share calculations - diluted	56,517	57,550	61,221
Net income per ordinary share :			
Basic	$ 4.28	$ 9.22	$ 7.45
Diluted	$ 4.22	$ 9.09	$ 7.30

Potentially dilutive ordinary shares from our employee equity incentive and purchase plans and the Exchangeable Senior Notes are determined by applying the treasury stock method to the assumed exercise of share options, the assumed vesting of outstanding restricted stock units, or RSUs, the assumed issuance of ordinary shares under our employee stock purchase plan, or ESPP, and the assumed issuance of ordinary shares upon exchange of the Exchangeable Senior Notes. The potential issue of ordinary shares issuable upon exchange of the Exchangeable Senior Notes had no effect on diluted net income per ordinary share because the average price of our ordinary shares in 2020, 2019 and 2018 did not exceed the effective exchange prices per ordinary share of the Exchangeable Senior Notes.

The following table represents the weighted-average ordinary shares that were excluded from the computation of diluted net income per ordinary share for the years presented because including them would have an anti-dilutive effect (in thousands):

	Year Ended December 31,		
	2020	2019	2018
Exchangeable Senior Notes	8,077	5,504	5,504
Options, RSUs and ESPP	4,780	5,000	3,113

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

17. Segment and Other Information

Our operating segment is reported in a manner consistent with the internal reporting provided to the chief operating decision maker, or CODM. Our CODM has been identified as our chief executive officer. We have determined that we operate in one business segment, which is the identification, development and commercialization of meaningful pharmaceutical products that address unmet medical needs.

The following table presents total long-lived assets by location (in thousands):

	December 31,	
	2020	2019
Ireland	$ 71,906	$ 77,237
United States	157,282	171,079
Italy	16,008	12,959
Other	11,908	9,616
Total long-lived assets (1)	$ 257,104	$ 270,891

(1) Long-lived assets consist of property, plant and equipment and operating lease assets.

18. Revenues

The following table presents a summary of total revenues (in thousands):

	Year Ended December 31,		
	2020	2019	2018
Xyrem	$ 1,741,758	$ 1,642,525	$ 1,404,866
Xywav	15,264	—	—
Total Oxybate	1,757,022	1,642,525	1,404,866
Sunosi	28,333	3,714	—
Total Neuroscience	1,785,355	1,646,239	1,404,866
Defitelio/defibrotide	195,842	172,938	149,448
Erwinaze/Erwinase	147,136	177,465	174,739
Vyxeos	121,105	121,407	100,835
Zepzelca	90,380	—	—
Total Oncology	554,463	471,810	425,022
Other	6,842	17,552	39,585
Product sales, net	2,346,660	2,135,601	1,869,473
Royalties and contract revenues	16,907	26,160	21,449
Total revenues	$ 2,363,567	$ 2,161,761	$ 1,890,922

The following table presents a summary of total revenues attributed to geographic sources (in thousands):

	Year Ended December 31,		
	2020	2019	2018
United States	$ 2,144,541	$ 1,964,161	$ 1,727,576
Europe	175,208	150,201	125,911
All other	43,818	47,399	37,435
Total revenues	$ 2,363,567	$ 2,161,761	$ 1,890,922

The following table presents a summary of the percentage of total revenues from customers that represented more than 10% of our total revenues:

	Year Ended December 31,		
	2020	2019	2018
ESSDS	74%	76%	74%
McKesson	12%	14%	17%

Financing and payment

Our payment terms vary by the type and location of our customer but payment is generally required in a term ranging from 30 to 45 days.

Contract Liabilities - Deferred Revenue

The deferred revenue balance as of December 31, 2020 primarily related to deferred upfront fees received from Nippon Shinyaku Co., Ltd., or Nippon Shinyaku, in connection with two license, development and commercialization agreements granting Nippon Shinyaku exclusive rights to develop and commercialize each of Defitelio and Vyxeos in Japan. We recognized contract revenues of $4.7 million in 2020 relating to these upfront payments. The deferred revenue balances are being recognized over an average of four years representing the period we expect to perform our research and developments obligations under each agreement.

The following table presents a reconciliation of our beginning and ending balances in contract liabilities from contracts with customers for the year ended December 31, 2020 (in thousands):

	Contract Liabilities
Balance as of December 31, 2019	$ 9,581
Amount recognized within royalties and contract revenues	(4,720)
Balance as of December 31, 2020	$ 4,861

19. Share-Based Compensation

2011 Equity Incentive Plan

On January 18, 2012, the businesses of Jazz Pharmaceuticals, Inc. and Azur Pharma were combined in a merger transaction, or the Azur Merger. In connection with the Azur Merger, Jazz Pharmaceuticals, Inc.'s board of directors adopted the 2011 Equity Incentive Plan, or the 2011 Plan, in October 2011 and its stockholders approved the 2011 Plan at the special meeting of the stockholders held in December 2011 in connection with the Azur Merger. The 2011 Plan became effective immediately before the consummation of the Azur Merger and was assumed and adopted by us upon the consummation of the Azur Merger. The terms of the 2011 Plan provide for the grant of stock options, stock appreciation rights, RSUs, other stock awards, and performance awards that may be settled in cash, shares, or other property. All outstanding grants under the 2011 Plan were granted to employees and vest ratably over service periods of four years and expire no more than 10 years after the date of grant. As of December 31, 2020, a total of 29,538,645 of our ordinary shares had been authorized for issuance under the 2011 Plan. In addition, the share reserve under the 2011 Plan will automatically increase on January 1 of each year through January 1, 2022, by the least of (a) 4.5% of the total number of ordinary shares outstanding on December 31 of the preceding calendar year, (b) 5,000,000 shares, or (c) such lesser number of ordinary shares as determined by our board of directors. On January 1, 2021, the share reserve under the 2011 Plan automatically increased by 2,526,437 ordinary shares pursuant to this provision.

2007 Equity Incentive Plan

The 2007 Equity Incentive Plan, or the 2007 Plan, which was initially adopted by the Jazz Pharmaceuticals, Inc. board of directors and approved by the Jazz Pharmaceuticals, Inc. stockholders in connection with its initial public offering, was continued and assumed by us upon consummation of the Azur Merger. The 2007 Plan provided for the grant of stock options, RSUs, stock appreciation rights, performance stock awards and other forms of equity compensation to employees, including officers, non-employee directors and consultants. Prior to the consummation of the Azur Merger, all of the grants under the 2007 Plan were granted to employees and vest ratably over service periods of three to five years and expire no more than 10 years after the date of grant. Effective as of the closing of the Azur Merger on January 18, 2012, the number of shares reserved for issuance under the 2007 Plan was set to 1,000,000 ordinary shares. The share reserve under the 2007 Plan will not automatically increase. Since the Azur Merger, all of the new grants under the 2007 Plan were granted to non-employee directors, vest ratably over service periods of one to three years and expire no more than 10 years after the date of grant. The 2007 Plan expired in April 2017, and accordingly, no new grants can be awarded under the 2007 Plan. As of December 31, 2020, the number of shares reserved represents issuable shares from options granted but not yet exercised under the 2007 Plan.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

2007 Employee Stock Purchase Plan

In 2007, Jazz Pharmaceuticals, Inc.'s employees became eligible to participate in the ESPP. The ESPP was amended and restated by Jazz Pharmaceuticals, Inc.'s board of directors in October 2011 and approved by its stockholders in December 2011. The amended and restated ESPP became effective immediately prior to the effective time of the Azur Merger and was assumed by us upon the consummation of the Azur Merger. The amended and restated ESPP allows our eligible employee participants (including employees of any of a parent or subsidiary company if our board of directors designates such company as eligible to participate) to purchase our ordinary shares at a discount of 15% through payroll deductions. The ESPP consists of a fixed offering period of 24 months with four purchase periods within each offering period. The number of shares available for issuance under our ESPP during any six-month purchase period is 175,000 shares. As of December 31, 2020, a total of 5,263,137 of our ordinary shares had been authorized for issuance under the ESPP. The share reserve under the ESPP will automatically increase on January 1 of each year through January 1, 2022, by the least of (a) 1.5% of the total number of ordinary shares outstanding on December 31 of the preceding calendar year, (b) 1,000,000 shares, and (c) such lesser number of ordinary shares as determined by our board of directors or a duly-authorized committee thereof. On January 1, 2021, the share reserve under the ESPP automatically increased by 842,145 ordinary shares pursuant to this provision.

Amended and Restated 2007 Non-Employee Directors Stock Award Plan

The Amended and Restated 2007 Non-Employee Directors Stock Award Plan, or the 2007 Directors Award Plan, which was initially adopted by the Jazz Pharmaceuticals, Inc. board of directors and approved by the Jazz Pharmaceuticals, Inc. stockholders in connection with its initial public offering, was continued and assumed by us upon the consummation of the Azur Merger. Until October 2011, the 2007 Directors Award Plan provided for the automatic grant of stock options to purchase shares of Jazz Pharmaceuticals, Inc.'s common stock to its non-employee directors initially at the time any individual first became a non-employee director, which vest over three years, and then annually over their period of service on its board of directors, which vest over one year. On October 24, 2011, Jazz Pharmaceuticals, Inc.'s board of directors amended the 2007 Directors Award Plan to eliminate all future initial and annual automatic grants so that future automatic grants would not be made that would be subject to the excise tax imposed by Section 4985 of the Internal Revenue Code of 1986, as amended, or the Internal Revenue Code, in connection with the Azur Merger. Accordingly, all future stock option grants under the 2007 Directors Award Plan will be at the discretion of our board of directors. Since the Azur Merger, all of the new grants under the 2007 Directors Award Plan were granted to non-employee directors and vest ratably over service periods of one to three years and expire no more than 10 years after the date of grant. In addition, the 2007 Directors Award Plan provides the source of shares to fund distributions made prior to August 15, 2010 under the Directors Deferred Compensation Plan described below. In August 2016, our shareholders approved our proposal to expand the types of stock awards that may be granted to our non-employee directors under the 2007 Directors Award Plan and eliminate the final automatic share reserve increase under the 2007 Directors Award Plan that was scheduled to occur on January 1, 2017. In July 2020, our shareholders approved our proposal to increase the number of ordinary shares authorized for issuance under the 2007 Directors Award Plan by 500,000 shares. As of December 31, 2020, a total of 1,403,938 of our ordinary shares had been authorized for issuance under the 2007 Directors Award Plan.

Amended and Restated Directors Deferred Compensation Plan

In May 2007, the Jazz Pharmaceuticals, Inc. board of directors adopted the Directors Deferred Compensation Plan, or the Directors Deferred Plan, which was amended in December 2008 and was then amended and restated in August 2010, and which was continued and assumed by us upon consummation of the Azur Merger. The Directors Deferred Plan allows each non-employee director to elect to defer receipt of all or a portion of his or her annual retainer fees to a future date or dates. Amounts deferred under the Directors Deferred Plan are credited as shares of Jazz Pharmaceuticals, Inc.'s common stock (or our ordinary shares following the Azur Merger) to a phantom stock account, the number of which are based on the amount of the retainer fees deferred divided by the market value of Jazz Pharmaceuticals, Inc.'s common stock (or our ordinary shares following the Azur Merger) on the first trading day of the first open window period following the date the retainer fees are deemed earned. On the 10th business day following the day of separation from the board of directors or the occurrence of a change in control, or as soon thereafter as practical once the non-employee director has provided the necessary information for electronic deposit of the deferred shares, each non-employee director will receive (or commence receiving, depending upon whether the director has elected to receive distributions from his or her phantom stock account in a lump sum or in installments over time) a distribution of his or her phantom stock account, in our ordinary shares (i) reserved under the 2007 Directors Option Plan prior to August 15, 2010 and (ii) from a new reserve of 200,000 shares set up under the Directors Deferred Plan on August 15, 2010. Since the consummation of the Azur Merger we have not permitted non-employee directors to defer any annual retainer fees under the Directors Deferred Plan. On October 31, 2019, our board of directors approved the termination of the Directors Deferred Plan, and all outstanding phantom stock was distributed to each applicable non-employee director on November 2, 2020. We recorded no expense in 2020, 2019 and 2018 related to retainer fees earned and deferred.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Share-Based Compensation

The table below shows, for all share option grants, the weighted-average assumptions used in the Black-Scholes option pricing model and the resulting weighted-average grant date fair value of share options granted in each of the past three years:

	Year Ended December 31,		
	2020	2019	2018
Grant date fair value	$ 34.68	$ 42.09	$ 47.17
Volatility	33%	32%	35%
Expected term (years)	4.6	4.5	4.5
Range of risk-free rates	0.2-1.6%	1.3-2.5%	2.2-3.0%
Expected dividend yield	—%	—%	—%

We rely on a blend of the historical and implied volatilities of our own ordinary shares to determine expected volatility for share option grants. In addition, we use a single volatility estimate for each share option grant. The weighted-average volatility is determined by calculating the weighted average of volatilities for all share options granted in a given year.

The expected term of share option grants represents the weighted-average period the awards are expected to remain outstanding and our estimates were based on historical exercise data. The risk-free interest rate assumption was based on zero coupon U.S. Treasury instruments whose term was consistent with the expected term of our share option grants. The expected dividend yield assumption was based on our history and expectation of dividend payouts.

Share-based compensation expense related to share options, RSUs and grants under our ESPP was as follows (in thousands):

	Year Ended December 31,		
	2020	2019	2018
Selling, general and administrative	$ 84,384	$ 78,697	$ 76,770
Research and development	29,242	25,229	19,037
Cost of product sales	7,372	6,637	6,634
Total share-based compensation expense, pre-tax	120,998	110,563	102,441
Income tax benefit from share-based compensation expense	(12,838)	(15,712)	(17,230)
Total share-based compensation expense, net of tax	$ 108,160	$ 94,851	$ 85,211

We recognized income tax benefits related to share option exercises of $3.9 million, $5.1 million and $7.7 million in 2020, 2019 and 2018, respectively.

Share Options

The following table summarizes information as of December 31, 2020 and activity during 2020 related to our share option plans:

	Shares Subject to Outstanding Options (In thousands)	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value (In thousands)
Outstanding at January 1, 2020	5,834	$ 131.57		
Options granted	823	118.59		
Options exercised	(780)	111.47		
Options forfeited	(281)	137.73		
Options expired	(317)	159.41		
Outstanding at December 31, 2020	5,279	$ 130.51	6.3	$ 180,493
Vested and expected to vest at December 31, 2020	5,064	$ 130.57	6.2	$ 180,763
Exercisable at December 31, 2020	3,441	$ 130.32	5.2	$ 125,469

Aggregate intrinsic value shown in the table above is equal to the difference between the exercise price of the underlying share options and the fair value of our ordinary shares for share options that were in the money. The aggregate intrinsic value changes based on the fair market value of our ordinary shares. The aggregate intrinsic value of share options exercised was

$26.4 million, $26.2 million and $43.4 million during 2020, 2019 and 2018, respectively. We issued new ordinary shares upon exercise of share options.

As of December 31, 2020, total compensation cost not yet recognized related to unvested share options was $57.7 million, which is expected to be recognized over a weighted-average period of 2.3 years.

As of December 31, 2020, total compensation cost not yet recognized related to grants under the ESPP was $6.3 million, which is expected to be recognized over a weighted-average period of 1.1 years.

Restricted Stock Units

In 2020, we granted RSUs covering an equal number of our ordinary shares to employees with a weighted-average grant date fair value of $117.23. The fair value of RSUs is determined on the date of grant based on the market price of our ordinary shares as of that date. The fair value of the RSUs is recognized as an expense ratably over the vesting period of four years. In 2020, 423,000 RSUs were released with 290,000 ordinary shares issued and 133,000 ordinary shares withheld for tax purposes. The total fair value of shares vested was $53.5 million, $52.0 million and $55.8 million during 2020, 2019 and 2018, respectively.

As of December 31, 2020, total compensation cost not yet recognized related to unvested RSUs was $143.7 million, which is expected to be recognized over a weighted-average period of 2.7 years.

The following table summarizes information as of December 31, 2020 and activity during 2020 related to our RSUs:

	Number of RSUs (in thousands)	Weighted-Average Grant-Date Fair Value	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value (In thousands)
Outstanding at January 1, 2020	1,181	$ 139.32		
RSUs granted	1,335	117.23		
RSUs released	(423)	137.50		
RSUs forfeited	(215)	130.21		
Outstanding at December 31, 2020	1,878	$ 125.07	1.5	$ 309,967

20. Employee Benefit Plans

We maintain a qualified 401(k) savings plan, in which all U.S. based employees are eligible to participate, provided they meet the requirements of the plan. We match certain employee contributions under the 401(k) savings plan and for the years ended December 31, 2020, 2019 and 2018 we recorded expense of $6.3 million, $5.0 million and $4.2 million, respectively, related to this plan.

We also operate a number of defined contribution retirement plans for certain non-U.S. based employees. Expenses related to contributions to such plans for the years ended December 31, 2020, 2019 and 2018 were $4.2 million, $3.2 million and $2.6 million, respectively.

21. Income Taxes

The components of income before the income tax provision (benefit) and equity in loss of investees were as follows (in thousands):

	Year Ended December 31,		
	2020	2019	2018
Ireland	$ (102,328)	$ (6,451)	$ 170,666
United States	372,910	317,728	294,621
Other	4,513	143,025	64,176
Total	$ 275,095	$ 454,302	$ 529,463

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following table sets forth the details of the income tax provision (benefit) (in thousands):

	Year Ended December 31,		
	2020	2019	2018
Current			
Ireland	$ 19,437	$ 51,696	$ 33,431
United States	110,896	109,495	95,143
Other	40,121	2,265	40,403
Total current tax expense	170,454	163,456	168,977
Deferred, exclusive of other components below			
Ireland	(32,458)	(163,626)	(12,408)
United States	(29,117)	(41,297)	(41,337)
Other	(73,599)	(37,244)	(34,545)
Total deferred, exclusive of other components	(135,174)	(242,167)	(88,290)
Deferred, change in tax rates			
United States	(371)	203	(538)
Other	(1,392)	5,354	13
Total deferred, change in tax rates	(1,763)	5,557	(525)
Total deferred tax benefit	(136,937)	(236,610)	(88,815)
Total income tax provision (benefit)	$ 33,517	$ (73,154)	$ 80,162

Our income tax provision of $33.5 million and $80.2 million in 2020 and 2018, respectively, and our income tax benefit of $73.2 million in 2019 related to tax arising on income in Ireland, the U.S. and certain other foreign jurisdictions, certain unrecognized tax benefits and various expenses not deductible for income tax purposes. The income tax benefit in 2019 included a discrete tax benefit of $112.3 million resulting from an intra-entity intellectual property asset transfer. The tax benefit, which represents a deferred future benefit, was recorded as a deferred tax asset.

The effective tax rates for 2020, 2019 and 2018 were 12.2%, (16.1)% and 15.1%, respectively. The effective tax rate for 2020 was lower than the Irish statutory rate of 12.5% primarily due to the impact of originating tax credits and deductions on subsidiary equity, partially offset by income taxable at a rate higher than the Irish statutory rate, the disallowance of certain interest deductions and a provision for a proposed settlement reached with the French tax authorities. The effective tax rate for 2019 was lower than the Irish statutory rate of 12.5% primarily due to the impact of the intra-entity intellectual property asset transfer. The effective tax rate for 2018 was higher than the Irish statutory rate of 12.5%, primarily due to income taxable at a rate higher than the Irish statutory rate and unrecognized tax benefits, partially offset by the release of reserves related to unrecognized tax benefits from the expiration of a statute of limitation, originating tax credits and the release of a valuation allowance held against certain foreign net operating losses, or NOLs. The increase in the effective tax rate in 2020 compared to 2019 was primarily due to the impact of the intra-entity intellectual property asset transfer. Excluding this effect, the increase in the effective tax rate for 2020 compared to 2019 was primarily due to the benefit recognized in 2019 from the application of the Italian patent box incentive regime 2015 through 2019 and the impact of the disallowance of certain interest deductions and a provision for a proposed settlement reached with the French tax authorities. The decrease in the effective tax rate in 2019 compared to 2018 was primarily due to the impact of the intra-entity intellectual property asset transfer. Excluding this effect, the decrease in the effective tax rate in 2019 compared to 2018 was primarily due to the benefit from the application of the Italian patent box incentive regime for 2015 through 2019.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The reconciliation between the statutory income tax rate applied to income before the income tax provision (benefit) and equity in loss of investees and our effective income tax rate was as follows:

	Year Ended December 31,		
	2020	2019	2018
Statutory income tax rate	12.5 %	12.5 %	12.5 %
Research and other tax credits	(11.8)%	(8.8)%	(3.0)%
Deduction on subsidiary equity	(9.4)%	(5.2)%	(0.5)%
Foreign income tax rate differential	6.0 %	8.7 %	11.9 %
Change in unrecognized tax benefits	5.9 %	0.1 %	1.1 %
Non-deductible compensation	3.1 %	1.8 %	1.2 %
Financing costs	2.6 %	(1.7)%	(4.3)%
Change in valuation allowance	2.2 %	3.3 %	3.2 %
Tax deficiencies/(Excess tax benefits) from share-based compensation	1.9 %	0.1 %	(0.4)%
Change in estimates	(1.3)%	0.3 %	(1.1)%
Change in tax rate	(0.7)%	1.5 %	(0.1)%
Investment in subsidiaries	0.1 %	— %	(4.8)%
Intra-entity transfer of intellectual property assets	— %	(24.7)%	— %
Patent box incentive benefit	— %	(7.0)%	— %
Non-deductible acquired IPR&D	— %	2.5 %	— %
Non-deductible loss contingency	— %	— %	0.8 %
Impact of U.S. Tax Act	— %	— %	(1.4)%
Other	1.1 %	0.5 %	— %
Effective income tax rate	12.2 %	(16.1)%	15.1 %

Significant components of our net deferred tax assets/(liabilities) were as follows (in thousands):

	December 31,	
	2020	2019
Deferred tax assets:		
Operating loss carryforwards	$ 89,216	$ 91,295
Tax credit carryforwards	258,296	225,681
Intangible assets	153,562	157,549
Share-based compensation	26,090	26,091
Accruals	62,561	49,063
Indirect effects of unrecognized tax benefits	48,743	39,432
Lease liabilities	31,787	33,847
Other	82,490	48,631
Total deferred tax assets	752,745	671,589
Valuation allowance	(77,342)	(66,307)
Deferred tax assets, net of valuation allowance	675,403	605,282
Deferred tax liabilities:		
Intangible assets	(448,310)	(536,085)
Operating lease assets	(26,316)	(28,442)
Other	(76,258)	(43,447)
Total deferred tax liabilities	(550,884)	(607,974)
Net of deferred tax assets and liabilities	$ 124,519	$ (2,692)

The net change in valuation allowance was an increase of $11.0 million, $5.1 million and $9.1 million in 2020, 2019 and 2018, respectively.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following table summarizes the presentation of deferred tax assets and liabilities (in thousands):

	December 31,	
	2020	2019
Deferred tax assets	$ 254,916	$ 221,403
Deferred tax liabilities	(130,397)	(224,095)
Net deferred tax assets/(liabilities)	$ 124,519	$ (2,692)

As of December 31, 2020, we had NOL carryforwards and tax credit carryforwards for U.S. federal income tax purposes of approximately $144.7 million and $205.4 million, respectively, available to reduce future income subject to income taxes. These NOL carryforwards are inclusive of $122.3 million from the Celator Acquisition in 2016 and $18.7 million from the Cavion acquisition in 2019. The U.S. federal NOL carryforwards will expire, if not utilized, in the tax years 2021 to 2036, and the U.S. federal tax credits will expire, if not utilized, in the tax years 2021 to 2040. In addition, we had approximately $58.9 million of NOL carryforwards and $7.1 million of tax credit carryforwards as of December 31, 2020 available to reduce future taxable income for U.S. state income tax purposes. The U.S. state NOL carryforwards will expire, if not utilized, in the tax years 2021 to 2040. As of December 31, 2020, there were NOL and other carryforwards for income tax purposes of approximately $271.5 million, $49.2 million, $40.1 million and $37.7 million available to reduce future income subject to income taxes in Ireland, Luxembourg, the United Kingdom and Malta, respectively. The NOLs and other carryforwards generated in Ireland, Luxembourg, the United Kingdom and Malta have no expiration date. We also had foreign tax credit carryforwards in Ireland, as of December 31, 2020, of $45.6 million, which may only be utilized against certain sources of income. The foreign tax credit carryforwards have no expiration date.

Utilization of certain of our NOL and tax credit carryforwards in the U.S. is subject to an annual limitation due to the ownership change limitations provided by Sections 382 and 383 of the Internal Revenue Code and similar state provisions. Such an annual limitation may result in the expiration of certain NOLs and tax credits before future utilization. In addition, as a result of the Azur Merger, until 2022 we are subject to certain limitations under the Internal Revenue Code in relation to the utilization of U.S. NOLs to offset U.S. taxable income resulting from certain transactions.

Valuation allowances require an assessment of both positive and negative evidence when determining whether it is more likely than not that deferred tax assets are recoverable. Such assessment is required on a jurisdiction-by-jurisdiction basis. Our valuation allowance was $77.3 million and $66.3 million as of December 31, 2020 and 2019, respectively, for certain Irish, U.S. (federal and state) and foreign deferred tax assets which we maintain until sufficient positive evidence exists to support reversal. During 2020, as part of the overall change in valuation allowance, we recognized a net income tax provision of $6.2 million relating primarily to the creation of a valuation allowance against certain deferred tax assets primarily associated with temporary differences related to foreign subsidiaries. During 2019, as part of the overall change in valuation allowance, we recognized a net income tax provision of $6.3 million relating primarily to the creation of a valuation allowance of $15.7 million against certain deferred tax assets primarily associated with foreign tax credits and temporary differences related to foreign subsidiaries, partially offset by the net release of valuation allowances against certain deferred tax assets primarily associated with NOLs. During 2018, as part of the overall change in valuation allowance, we recognized a net income tax provision of $11.2 million relating primarily to the creation of a valuation allowance of $25.7 million against certain deferred tax assets primarily associated with temporary differences related to foreign subsidiaries, partially offset by the net release of valuation allowances against certain deferred tax assets primarily associated with NOLs and foreign tax credits. The $11.2 million net income tax provision included a benefit of $10.9 million relating to a change in judgment leading to the reversal of a valuation allowance against certain deferred tax assets, primarily related to NOLs in the United Kingdom and a benefit of $5.9 million relating to the reversal of a valuation allowance upon completing our analysis of our ability to utilize certain foreign tax credits generated by the one-time transition tax in the U.S. Management determined that valuation allowances were no longer needed on these deferred tax assets based on an assessment of the relative impact of all positive and negative evidence that existed at December 31, 2018, including an evaluation of cumulative income in recent years, future sources of taxable income exclusive of reversing temporary differences, and significant risks and uncertainties related to our business. We periodically evaluate the likelihood of the realization of deferred tax assets and will adjust such amounts in light of changing facts and circumstances including, but not limited to, future projections of taxable income, tax legislation, rulings by relevant tax authorities, the progress of tax audits and the regulatory approval of products currently under development. Realization of the deferred tax assets is dependent on future taxable income.

Temporary differences related to foreign subsidiaries that are considered indefinitely reinvested totaled approximately $1.9 billion and $1.6 billion as of December 31, 2020 and 2019, respectively. In the event of the distribution of those earnings in the form of dividends, a sale of the subsidiaries, or certain other transactions, we may be liable for income taxes, subject to an adjustment, if any, for foreign tax credits and foreign withholding taxes payable to certain foreign tax authorities. As of

December 31, 2020, it was not practicable to determine the amount of the unrecognized deferred tax liability related to these earnings.

We only recognize the financial statement effects of a tax position when it is more likely than not, based on the technical merits, that the position will be sustained upon examination. As a result, we have recorded an unrecognized tax benefit for certain tax benefits which we judge may not be sustained upon examination.

A reconciliation of our gross unrecognized tax benefits follows (in thousands):

	December 31,		
	2020	2019	2018
Balance at the beginning of the year	$ 124,319	$ 118,213	$ 106,162
Increases related to current year tax positions	27,908	27,552	22,649
Increases related to prior year tax positions	19,712	761	7,584
Decreases related to prior year tax positions	(213)	(91)	—
Lapse of the applicable statute of limitations	(25,169)	(22,116)	(18,182)
Balance at the end of the year	$ 146,557	$ 124,319	$ 118,213

The unrecognized tax benefits were included in income taxes payable, other non-current liabilities, deferred tax liabilities, net, and deferred tax assets, net, in our consolidated balance sheets. Interest related to our unrecognized tax benefits is recorded in the income tax provision in our consolidated statements of income. As of December 31, 2020 and 2019, our accrued interest and penalties related to unrecognized tax benefits was $11.3 million and $7.4 million, respectively. Interest and penalties related to unrecognized tax benefits recognized in the statements of income were not significant. Included in the balance of unrecognized tax benefits were potential benefits of $93.0 million and $78.8 million at December 31, 2020 and 2019, respectively, that, if recognized, would affect the effective tax rate on income.

We file income tax returns in multiple tax jurisdictions, the most significant of which are Ireland and the U.S. (both at the federal level and in various state jurisdictions). For Ireland we are no longer subject to income tax audits by taxing authorities for the years prior to 2016. The U.S. jurisdictions generally have statute of limitations three to four years from the later of the return due date or the date when the return was filed. However, in the U.S. (at the federal level and in most states), carryforwards that were generated in 2016 and earlier may still be adjusted upon examination by the tax authorities. Certain of our subsidiaries are currently under examination by the French tax authorities for the years ended December 31, 2012, 2013, 2015, 2016 and 2017. These examinations may lead to ordinary course adjustments or proposed adjustments to our taxes. In the period from December 2015 through to December 2019, we received proposed tax assessment notices for each of the years under examination relating to certain transfer pricing adjustments. The notices propose additional French tax of approximately $45.9 million for 2012 and 2013 and approximately $13.1 million for 2015, 2016 and 2017 including interest and penalties through the respective dates of the proposed assessments, translated at the foreign exchange rate at December 31, 2020. Due to the subjective nature of the transfer pricing issues involved, during 2020, the Company reached an agreement in principle to settle the audits for all open years with the French tax authorities. The settlement would require the Company to pay incremental taxes, interest and penalties of $19.6 million, translated at the foreign exchange rate as of December 31, 2020. The income tax expense in 2020 includes the impact of the settlement, which is expected to be finalized and paid in 2021. Certain of our Italian subsidiaries are currently under examination by the Italian tax authorities for the year ended December 31, 2017. Certain of our Luxembourg subsidiaries are currently under examination by the Luxembourg tax authorities for the years ended December 31, 2017 and 2018.

22. Subsequent Events

GW Transaction Agreement

On February 3, 2021, we announced that we have entered into a definitive transaction agreement, or the GW Transaction Agreement, with GW Pharmaceuticals plc, or GW, under which a wholly-owned subsidiary of ours, Jazz Pharmaceuticals UK Holdings Limited, or Acquisition Sub, agreed to acquire GW. The GW Transaction Agreement provides, among other things, that subject to the satisfaction or waiver of the conditions set forth in the GW Transaction Agreement, Acquisition Sub will acquire the entire issued share capital of GW pursuant to a scheme of arrangement under Part 26 of the United Kingdom Companies Act 2006, or Scheme of Arrangement, which we refer to as the GW Acquisition.

Under the GW Transaction Agreement, at the effective time of the Scheme of Arrangement, all GW ordinary shares issued and outstanding will be transferred to Acquisition Sub, and the holders of GW ordinary shares will have the right to

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

receive, for each such share, (a) $16.66⅔ in cash and (b) an amount of our ordinary shares determined based on the exchange ratio, which exchange ratio will be determined as follows:

- If the volume-weighted weighted average sales price of our ordinary shares, as determined in accordance with the GW Transaction Agreement, or the Defined VWAP, is greater than $139.72 but less than $170.76, the exchange ratio will be an amount equal to the quotient obtained by dividing (x) $1.66⅔ by (y) the Defined VWAP;
- If the Defined VWAP is equal to or less than $139.72, the exchange ratio will be 0.011929; or
- If the Defined VWAP is an amount equal to or greater than $170.76, the exchange ratio will be 0.009760.

Because each American Depositary Share in GW, or GW ADSs, represents a beneficial interest in 12 GW ordinary shares, holders of GW ADSs will be entitled to receive 12 times the foregoing cash and share amounts, or (1) $200.00 in cash and (2) $20.00 in the form of our ordinary shares with the actual number of our ordinary shares being determined based on the exchange ratio set out above. The total consideration to be paid by us for the entire issued share capital of GW is approximately $7.2 billion.

The respective obligations of GW and us to consummate the GW Acquisition are subject to the satisfaction or waiver of a number of customary conditions, including the approval by GW's shareholders of the Scheme of Arrangement, obtaining certain regulatory approvals, including expiration of the applicable waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, and obtaining sanction of the Scheme of Arrangement by the High Court of Justice of England and Wales. The GW Acquisition is not subject to approval by our shareholders, nor is the GW Acquisition subject to a financing contingency. The GW Acquisition is expected to close in the second quarter of 2021, subject to the satisfaction or waiver of the conditions set forth in the GW Transaction Agreement. The GW Transaction Agreement contains customary representations and warranties given by GW and us, covenants regarding the conduct of GW's business prior to the consummation of the GW Acquisition, termination rights and other customary provisions.

Financing Commitment

On February 3, 2021, in connection with the execution of the GW Transaction Agreement, we entered into a commitment letter with BofA Securities, Inc., Bank of America, N.A. and JPMorgan Chase Bank, N.A. pursuant to which the commitment parties have committed to provide us with a senior secured revolving credit facility in an aggregate principal amount of up to $500.0 million, a senior secured term loan B facility in an aggregate principal amount of up to $3.15 billion and a senior secured bridge loan facility in an aggregate principal amount of up to $2.2 billion to, among other things, finance our obligations in respect of the GW Acquisition. The effectiveness of such credit facilities is subject to the occurrence of customary closing conditions, including the consummation of the GW Acquisition.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

23. Quarterly Financial Data (Unaudited)

The following interim financial information presents our 2020 and 2019 results of operations on a quarterly basis (in thousands, except per share amounts):

	2020			
	March 31	June 30	September 30	December 31
Revenues	$ 534,726	$ 562,436	$ 600,888	$ 665,517
Gross margin (1)	501,548	530,195	554,854	611,146
Net income (loss)	(157,833)	114,801	148,234	133,414
Net income (loss) per ordinary share, basic	(2.82)	2.07	2.67	2.39
Net income (loss) per ordinary share, diluted	(2.82)	2.06	2.64	2.33

	2019			
	March 31	June 30	September 30	December 31
Revenues	$ 508,186	$ 534,133	$ 537,702	$ 581,740
Gross margin (1)	469,825	495,747	500,921	541,178
Net income	85,201	261,898	102,276	73,992
Net income per ordinary share, basic	1.49	4.62	1.80	1.31
Net income per ordinary share, diluted	1.47	4.56	1.78	1.29

(1) Gross margin is computed by subtracting cost of product sales (excluding amortization of acquired developed technologies) from product sales, net.

The interim financial information above includes the following items:

- Acquired IPR&D expense of $202.3 million and $36.0 million in the first and fourth quarters of 2020, respectively, and $56.0 million and $48.3 million in the first and third quarters of 2019, respectively;
- Impairment charge of $136.1 million in the first quarter of 2020;
- A one-time tax benefit of $112.3 million resulting from an intra-entity intellectual property asset transfer in the second quarter of 2019; and
- Amortization costs of $111.1 million in the fourth quarter of 2019 in respect of the PRV.

Schedule II

Valuation and Qualifying Accounts
(In thousands)

		Balance at beginning of period	Additions charged to costs and expenses	Other Additions	Deductions	Balance at end of period
For the year ended December 31, 2020						
Allowance for doubtful accounts	(1)	$ 50	$ 5	$ —	$ (5)	$ 50
Allowance for sales discounts	(1)	113	1,432	—	(1,401)	144
Allowance for chargebacks	(1)	1,133	45,550	—	(41,390)	5,293
Deferred tax asset valuation allowance	(2)(3)(4)	66,307	6,576	4,961	(502)	77,342
For the year ended December 31, 2019						
Allowance for doubtful accounts	(1)	$ 50	$ 9	$ —	$ (9)	$ 50
Allowance for sales discounts	(1)	76	782	—	(745)	113
Allowance for chargebacks	(1)	408	41,864	—	(41,139)	1,133
Deferred tax asset valuation allowance	(2)(3)(4)	61,237	20,086	357	(15,373)	66,307
For the year ended December 31, 2018						
Allowance for doubtful accounts	(1)	$ 396	$ 20	$ —	$ (366)	$ 50
Allowance for sales discounts	(1)	103	811	—	(838)	76
Allowance for chargebacks	(1)	3,663	41,387	—	(44,642)	408
Deferred tax asset valuation allowance	(2)(3)	52,144	35,500	—	(26,407)	61,237

(1) Shown as a reduction of accounts receivable. Charges related to sales discounts and chargebacks are reflected as a reduction of revenue.

(2) Additions to the deferred tax asset valuation allowance charged to costs and expenses relate to movements on certain Irish, U.S. (federal and state) and other foreign deferred tax assets where we continue to maintain a valuation allowance until sufficient positive evidence exists to support reversal.

(3) Deductions from the deferred tax asset valuation allowance include movements relating to utilization of NOLs and tax credit carryforwards, release in valuation allowance and other movements including adjustments following finalization of tax returns.

(4) Other additions to the deferred tax asset valuation allowance relate to currency translation adjustments recorded directly in other comprehensive income and, in 2019, additions resulting from the Cavion asset acquisition.

Exhibit 10.33D

JAZZ PHARMACEUTICALS

CASH BONUS PLAN

(IRELAND AND OTHER SPECIFIED AFFILIATES)

(Calendar Year 2021)

1. Purpose of the Plan.

The Jazz Pharmaceuticals Cash Bonus Plan (Ireland and Other Specified Affiliates) (Calendar Year 2021) (the "***Plan***") is designed to provide meaningful incentive, on an annual basis, for employees of Jazz Pharmaceuticals plc (the "***Company***") and employees of the Company's Ireland and Other Specified Affiliates for the Plan Year beginning 1 January 2021 and ending 31 December 2021.

2. Eligibility.

In order to be eligible to participate in the Plan for a Plan Year, an employee (a) must be an employee of the Company or an Ireland and Other Specified Affiliate (each, including Ireland, a "***Specified Affiliate***") whose Employment Start Date is 31 October of the Plan Year or earlier, and (b) must not be eligible to participate in a commercial (including sales) or other similar incentive compensation plan. Additionally, with respect to Gentium S.r.l., Jazz Pharmaceuticals Italy S.r.l. and any other Specified Affiliate in Italy (other than Jazz Healthcare Italy S.r.l.), only employees who are classified as "dirigenti" under Italian employment laws and are individually notified in a separate writing of their eligibility are eligible to participate in the Plan. Employees who are interns are not eligible to be Participants, to the extent permissible under applicable local law.

In order to be eligible to receive a Bonus for a Plan Year, a Participant must (i) continue to be an employee of the Company or a Specified Affiliate in good standing, as determined at the discretion of the employer, from the date his/her participation in the Plan commences for the Plan Year until the Bonus Payment Date (as defined in Section 7) for the Plan Year, except as provided in Section 6, (ii) act in accordance with the Company's Code of Conduct, compliance policies and procedures, and those of the Participant's employer, and applicable laws and regulations during the Plan Year, and (iii) not be serving a notice period as of the Bonus Payment Date for the Plan Year.

The Plan will automatically expire at the end of the indicated Plan Year, and no new plan will be implemented unless the Company announces otherwise.

3. Target Bonus.

The Target Bonus for Participants and the amount of Bonus actually paid to a Participant in a Plan Year under the Plan may vary from year to year and between positions, and among positions at the same level. No Participant has any contractual or otherwise acquired rights to a Target Bonus pursuant to any previous target bonus (whether set forth in a written plan or otherwise). The Board or the Compensation Committee retains the sole discretion to determine the Target Bonuses that apply to Participants, and such determination may include (but is not

required) consideration of a Participant's position and/or responsibility level. Participants in Italy who are classified as "dirigenti" under Italian employment laws will be provided written notice specifying such Participant's Target Bonus and the below table does not apply to such Participants. For other Participants, the following table provides a general guideline as to the Target Bonuses which may typically be assigned to various categories of employees:

Position	Target Bonus (Percent of Base Salary)
Senior Vice President who is an Executive Committee Member	45%
Senior Vice President who is not an Executive Committee Member	40%
Vice President	35%
Executive Director	30%
Senior Director	25%
Director	22%
Associate Director	20%
Senior Manager	18%
Manager	15%
Analyst/Senior Analyst	12%
Support/Senior Support	8%

As additional general guidelines, if a Participant moves to a position and/or responsibility level with a higher Target Bonus during a Plan Year, the Participant's Target Bonus will be reset at such higher level for the entire Plan Year; and if a Participant moves to a position and/or responsibility level with a lower Target Bonus during a Plan Year, the Participant's Target Bonus will be reset at the lower level for the entire Plan Year, to the extent permissible under applicable local law.

For any Participant who is a Section 16 Officer of Jazz Pharmaceuticals plc, the Board or the Compensation Committee will determine such Participant's Target Bonus for the Plan Year.

4. Bonus Pool and Bonuses.

Following the end of a Plan Year, the Board or the Compensation Committee will determine, in its sole discretion, the Bonus Pool for the Plan Year to be allocated for the payment of Bonuses to Participants. The Bonus Pool will be calculated by multiplying

(a) the sum of the following amounts for each Participant:

(i) the Base Salary for such Participant, multiplied by

(ii) such Participant's applicable Target Bonus;

with

(b) the percentage set by the Board or the Compensation Committee based upon its determination of the Company's success in achieving the objectives established by the Board or the Compensation Committee for funding the Bonus Pool for the Plan Year (the "***Bonus Pool Objectives***").

The Bonus Pool Objectives are related to the achievement of the overall corporate objectives established for the applicable Plan Year by the Board or the Compensation Committee (the "***Corporate Objectives***").

At the discretion of the Board or the Compensation Committee, the Bonus Pool will be reduced by the amount of bonuses that are required to be paid to any Participants under applicable collective bargaining agreements, labor union arrangements, or the like, if any.

5. Bonus.

Except as provided in Section 6, a Participant's Bonus (on a gross basis) for a Plan Year will be based upon the following criteria: (a) the Company's success in achieving the Corporate Objectives established for the Plan Year, (b) the Participant's success in achieving his/her individual objectives established for the Plan Year (if applicable) and the Participant's contribution to the Company's success in achieving the Corporate Objectives, in each case while demonstrating Company values, and (c) the Participant's compliance with Company policies and those of Participant's employer as evaluated at the discretion of the employer. Applying these criteria, a participant may (or may not) be entitled to any Bonus. In the event that a Participant is to receive a Bonus, except as provided in Section 6, the amount of Bonus actually paid to each Participant will be an amount equal to such Participant's Base Salary multiplied by the applicable Target Bonus (as may be adjusted up or down for each Participant by the Board, the Compensation Committee or the Company's management, as appropriate, based on the criteria set forth above, and will be reduced by the amount of any bonuses that are required to be paid to the Participant under applicable collective bargaining agreements, labor union arrangements, or the like). Each Participant's Bonus for a Plan Year will be approved by the Chief Executive Officer or his or her delegate, except that in the case of any Participant who is a Section 16 Officer of Jazz Pharmaceuticals plc, such Participant's Bonus will be approved by the Board or the Compensation Committee.

The maximum Bonus payable to any Participant with respect to a Plan Year is 300% of the Participant's Target Bonus.

The total of all Bonuses paid under this Plan in any Plan Year may not exceed the Bonus Pool for such Plan Year unless such excess amount is specifically approved by the Board or the Compensation Committee. Except as provided in Section 6, no amounts will be payable to any Participant hereunder until the Bonus Pool and such Participant's Bonus have been determined as described above. Except as provided in Section 6, no Participant is entitled to any particular bonus, or any bonus, unless approved as described above.

6. Termination of Employment; Death; Retirement; Permanent Disability.

No Bonus, prorated or otherwise, will be paid to any Participant whose employment with the Company or a Specified Affiliate terminates prior to the date Bonuses for a Plan Year are scheduled to be paid pursuant to Section 7, unless (a) such termination is due to the Participant's death, retirement or Permanent Disability, (b) the Board, the Compensation Committee, or the Company's management in appropriate circumstances in management's discretion determines that the Participant will be eligible to receive a Bonus, or (c) such condition is prohibited by

regulations, laws, employment agreements or employment contracts applicable to a particular Participant.

In the case of a Participant whose employment with the Company or a Specified Affiliate terminates (including due to death, retirement or Permanent Disability) prior to the Bonus Payment Date and who becomes entitled to receive a Bonus pursuant to the foregoing paragraph, the amount of such Participant's Bonus for the Plan Year will be determined by the Board, the Compensation Committee, or the Company's management, and may be prorated or otherwise determined based on the number of months employed during the Plan Year, performance or any other factors as decided by the Board, the Compensation Committee or the Company's management, as appropriate, to the extent permissible under applicable local law.

Any Participant whose employment with the Company or a Specified Affiliate terminates (including due to death, retirement or Permanent Disability) prior to the Bonus Payment Date and who becomes entitled to receive a Bonus pursuant to this Section 6 will be paid such Bonus at the time determined by the Company's management, which will in no event be later than the Bonus Payment Date.

Unless otherwise required under applicable local law, payments under this Plan shall not be included in calculation of any payment in lieu of notice, severance pay, termination, indemnity or similar pay.

7. Payment of Bonuses.

Bonuses for a Plan Year will be paid in cash to a Participant (or his/her beneficiary, in the event of death) by 15 March of the following year (the "***Bonus Payment Date***"), except (i) as is otherwise determined in the sole discretion of the Board, the Compensation Committee or the Company's management, as appropriate, or (ii) as may be necessary or advisable to comply with regulations, laws, employment agreements or employment contracts applicable to a particular Participant. Benefits under this Plan are not transferable, to the extent permissible under applicable local law.

8. Withholding of Taxes and Mandatory Contributions.

Bonuses will be subject to applicable tax and social security withholding as required by applicable local laws.

9. Plan Amendments.

This Plan may be revised, modified, or terminated at any time in the sole discretion of the Board or the Compensation Committee. Without limiting the foregoing, the Plan may be revised, modified, or terminated with respect to a Participant or specific group of Participants as may be necessary or advisable to comply with the laws and regulations of the jurisdiction where such Participant or specific group of Participants are employed or where such Participant or specific group of Participants are tax residents.

10. No Employment Rights; No Acquired Rights.

Nothing contained in this Plan is intended to confer any right upon any employee to continued employment with the Company or any Specified Affiliate or other affiliate thereof.

Any payment of Bonuses would be on a voluntary and discretionary basis, without creating any contractual or other acquired right to participate with respect to a similar (or any other) bonus plan or to receive any similar awards (or benefits in lieu) in the future.

11. Plan Administration.

This Plan will be administered by the Board or the Compensation Committee. The Board and the Compensation Committee shall have the sole discretion and authority to administer and interpret the Plan, and the decisions of the Board and the Compensation Committee shall in every case be final and binding on all persons having an interest in the Plan. Notwithstanding the foregoing, certain aspects of the Plan may be administered by the Chief Executive Officer or the Company's management, as specifically provided in the Plan, and in such event, the Chief Executive Officer or the Company's management shall have the sole discretion and authority to administer and interpret such aspects of the Plan, and the decisions of the Chief Executive Officer or the Company's management shall in such cases be final and binding.

12. Definitions.

"***Base Salary***" for a Participant means the total amount of base salary or base pay actually paid to the Participant during the period of his/her participation in the Plan for the Plan Year, rather than the Participant's base salary level or base pay level at any particular point during the Plan Year (*e.g.*, the Base Salary for a Participant whose base salary or base pay is adjusted during the Plan Year, for a Participant who is hired during the Plan Year, or for a Participant whose employment terminates during the Plan Year will be the total amount of base salary or base pay actually paid to the Participant during the period of his/her participation in the Plan for the Plan Year). Base Salary does not include any benefits, expense reimbursements, relocation payments, incentive compensation or bonuses, amounts received as a result of equity awards, overtime or shift differential payments or similar one- time or unusual payments. Any salary or pay earned for periods during which a Participant is on disciplinary action or serving a notice period are excluded from Base Salary to the extent permissible under applicable local law.

"***Board***" means the Board of Directors of Jazz Pharmaceuticals plc.

"***Bonus***" means a Participant's actual bonus for a Plan Year as determined in accordance with Section 5 or Section 6, if applicable.

"***Bonus Pool***" for a Plan Year means the aggregate dollar amount set by the Board or the Compensation Committee for the payment of Bonuses for such Plan Year to Participants as set forth in Section 4.

"***Chief Executive Officer***" means the Chief Executive Officer of Jazz Pharmaceuticals plc.

"***Compensation Committee***" means the Compensation Committee of the Board.

"***Employment Start Date***" means the first business day on which a Participant is an employee of the Company or a Specified Affiliate, on the Company's or such Affiliate's payroll, as applicable.

"***Executive Committee Member***" means an employee of the Company who serves as a member of the Company's executive committee, as determined by the Chief Executive Officer from time to time.

"***Ireland and Other Specified Affiliate***" means any "parent" or "subsidiary" of the Company that is organized under the laws of Ireland, under the laws of any other country within Europe, or under the laws of Canada. In addition, the Board or the Compensation Committee can designate any other "parent" or "subsidiary" of the Company to be included within this definition.

"***Participant***" means an employee of the Company or an Ireland and Other Specified Affiliate who meets all of the eligibility requirements set forth in Section 2.

"***Permanent Disability***" means that a Participant has become permanently disabled under any policy or program of disability income insurance then in force covering such Participant.

"***Plan***" means this Jazz Pharmaceuticals Cash Bonus Plan (Ireland and Other Specified Affiliates) (Calendar Year 2021).

"***Plan Year***" means the calendar year beginning 1 January 2021 and ending 31 December 2021, after which the Plan should expire.

"***Section 16 Officer***" means an individual who has been designated by the Board as an "officer" of Jazz Pharmaceuticals plc for the purposes of Section 16 of the Securities Exchange Act of 1934, as amended, and Rule 16a-1(f) thereunder.

"***Target Bonus***" means, for a Participant for a Plan Year, the percentage of Base Salary that represents the amount of Bonus that such Participant may receive for such Plan Year, as may be adjusted with respect to such Participant for such Plan Year in the discretion of the Board, the Compensation Committee or the Chief Executive Officer or his or her delegate, as applicable.

*****

As approved by the Compensation Committee of the Board of Directors of Jazz Pharmaceuticals plc on 27 October 2020.

AGREEMENT AND ACCEPTANCE

I acknowledge that this Cash Bonus Plan for the Plan Year beginning 1 January 2021 and ending 31 December 2021 supersedes and replaces all prior agreements, representations or understandings, whether written, oral or implied, between the Company, my employer and me, with respect to this subject matter. Further, I acknowledge that I have read, understand, and agree to comply with all of the terms and conditions of this Cash Bonus Plan.

Employee Signature:

Date:

Exhibit 10.33C

JAZZ PHARMACEUTICALS PLC

CASH BONUS PLAN

(U.S. AFFILIATES)

1. Purpose of the Plan.

The Jazz Pharmaceuticals plc Cash Bonus Plan (U.S. Affiliates) (the "***Plan***") is designed to provide meaningful incentive, on an annual basis, for employees of U.S. Affiliates of Jazz Pharmaceuticals plc (the "***Company***").

2. Eligibility.

In order to be eligible to participate in the Plan for a Plan Year, an employee (a) must be an active regular employee of a U.S. Affiliate of the Company whose Employment Start Date is October 31 of the Plan Year or earlier and (b) must not be eligible to participate in a commercial (including sales) or other similar incentive compensation plan. Employees who are not expressly classified by the U.S. Affiliate as "regular" employees, such as temporary or contract employees and interns, are not eligible to be Participants.

In order to be eligible to receive a Bonus for a Plan Year, a Participant must (i) continue to be an active regular employee of a U.S. Affiliate of the Company in good standing from the date his/her participation in the Plan commences for the Plan Year until the date Bonuses are paid for the Plan Year, except as provided in Section 6, and (ii) act in accordance with the Company's Code of Conduct, compliance policies and procedures, and those of the Participant's employer, and applicable laws and regulations during the Plan Year.

3. Target Bonus.

A Participant's Target Bonus generally will be based on the Participant's position and/or responsibility level. The Target Bonus for Participants and the amount of Bonus actually paid to a Participant in a Plan Year under the Plan may vary from year to year and between positions, and among positions at the same level. However, as a general guideline, the Target Bonuses which will typically be assigned to various categories of employees (and varying depending on responsibility levels within each category) are as follows:

Position	Target Bonus (Percent of Base Salary)
Senior Vice President who is an Executive Committee Member	45%
Senior Vice President who is not an Executive Committee Member	40%
Vice President	35%
Executive Director	30%
Senior Director	25%
Director	22%
Associate Director	20%
Senior Manager	18%
Manager	15%
Analyst/Senior Analyst	12%
Support/Senior Support	8%

If a Participant moves to a position and/or responsibility level with a higher Target Bonus during a Plan Year, the Participant's Target Bonus will be reset at such higher level for the entire Plan Year. If a Participant moves to a position and/or responsibility level with a lower Target Bonus during a Plan Year, the Participant's Target Bonus will be reset at the lower level for the entire Plan Year.

For any Participant who is a Section 16 Officer of Jazz Pharmaceuticals plc, the Board or the Compensation Committee will determine such Participant's Target Bonus for each Plan Year.

4. Bonus Pool and Bonuses.

Following the end of a Plan Year, the Board or the Compensation Committee will determine, in its sole discretion, the Bonus Pool for the Plan Year to be allocated for the payment of Bonuses to Participants. The Bonus Pool will be calculated by multiplying

(a) the sum of the following amounts for each Participant:

(a) the Base Salary for such Participant, multiplied by

(b) such Participant's applicable Target Bonus;

with

(b) the percentage set by the Board or the Compensation Committee based upon its determination of the Company's success in achieving the objectives established by the Board or the Compensation Committee for funding the Bonus Pool for the Plan Year (the "***Bonus Pool Objectives***").

The Bonus Pool Objectives are related to the achievement of the overall corporate objectives established for the applicable Plan Year by the Board or the Compensation Committee (the "***Corporate Objectives***").

5. Bonus.

Except as provided in Section 6, a Participant's Bonus for a Plan Year will be based upon the following criteria: (a) the Company's success in achieving the Corporate Objectives established for the Plan Year, (b) the Participant's success in achieving his/her individual objectives established for the Plan Year (if applicable) and the Participant's contribution to the Company's success in achieving the Corporate Objectives, in each case while demonstrating Company values, and (c) the Participant's compliance with Company policies and those of Participant's employer. Except as provided in Section 6, the amount of Bonus actually paid to each Participant will be an amount equal to such Participant's Base Salary multiplied by the applicable Target Bonus (as may be adjusted up or down for each Participant by the Board, the Compensation Committee or the Company's management, as appropriate, based on the criteria set forth above). Each Participant's Bonus for a Plan Year will be approved by the Chief Executive Officer or his or her delegate, except that in the case of any Participant who is a Section 16 Officer of Jazz Pharmaceuticals plc, such Participant's Bonus will be approved by the Board or the Compensation Committee.

The maximum Bonus payable to any Participant with respect to a Plan Year is 300% of the Participant's Target Bonus.

The total of all Bonuses paid under this Plan in any Plan Year may not exceed the Bonus Pool for such Plan Year unless such excess amount is specifically approved by the Board or the Compensation Committee. Except as provided in Section 6, no amounts will be payable to any Participant hereunder until the Bonus Pool and such Participant's Bonus have been determined as described above. Except as provided in Section 6, no Participant is entitled to any particular bonus, or any bonus, unless approved as described above.

6. Termination of Employment; Death; Retirement; Permanent Disability.

No Bonus will be paid to any Participant whose employment with a U.S. Affiliate of the Company terminates prior to the date Bonuses for a Plan Year are scheduled to be paid pursuant to Section 7, unless (a) such termination is due to the Participant's death, retirement or Permanent Disability, (b) the Board, the Compensation Committee, or the Company's management in appropriate circumstances in management's discretion determines that the Participant will be eligible to receive a Bonus, or (c) such condition is prohibited by regulations, laws, employment agreements or employment contracts applicable to a particular Participant.

In the case of a Participant whose employment with a U.S. Affiliate of the Company terminates (including due to death, retirement or Permanent Disability) prior to the date Bonuses for a Plan Year are scheduled to be paid and who becomes entitled to receive a Bonus pursuant to the foregoing paragraph, the amount of such Participant's Bonus for the Plan Year will be determined by the Board, the Compensation Committee, or the Company's management and may be prorated or otherwise determined based on the number of months employed during the Plan Year, performance or any other factors as decided by the Board, the Compensation Committee or the Company's management, as appropriate.

Any Participant whose employment with a U.S. Affiliate of the Company terminates (including due to death, retirement or Permanent Disability) prior to the date Bonuses for a Plan Year are scheduled to be paid and who becomes entitled to receive a Bonus pursuant to this Section 6 will be paid such Bonus at the time determined by the Company's management, which will in no event be later than the time at which other Participants' Bonuses for the Plan Year are scheduled to be paid pursuant to Section 7.

7. Payment of Bonuses.

Bonuses for a Plan Year will be paid in cash to a Participant (or his/her beneficiary, in the event of death) by March 15th of the following year, except (i) as is otherwise determined in the sole discretion of the Board, the Compensation Committee or the Company's management, as appropriate, or (ii) as may be necessary or advisable to comply with regulations, laws, employment agreements or employment contracts applicable to a particular Participant; *provided*, *however*, that in all cases, the payment date of any Bonus for any Participant who is subject to Section 409A of the Internal Revenue Code of 1986, as amended, or any state law of similar effect ("***Section 409A***") will be designed to either comply with Section 409A or satisfy an exemption from application of Section 409A, and the Plan will be administered and interpreted to the greatest extent possible in compliance with Section 409A or in accordance with such exemption, as applicable. Benefits under this Plan are not transferable, and the Plan is unfunded.

8. Withholding of Taxes.

Bonuses will be subject to income and employment tax withholding as required by applicable law.

9. Plan Amendments.

This Plan may be revised, modified, or terminated at any time in the sole discretion of the Board or the Compensation Committee. Without limiting the foregoing, the Plan may be revised, modified, or terminated with respect to a Participant or specific group of Participants as may be necessary or advisable to comply with the laws and regulations of the jurisdiction where such Participant or specific group of Participants are employed or where such Participant or specific group of Participants are tax residents.

10. No Employment Rights.

Nothing contained in this Plan is intended to confer any right upon any employee to continued employment with the Company or any U.S. Affiliate or other affiliate thereof.

11. Plan Administration.

This Plan will be administered by the Board or the Compensation Committee. The Board and the Compensation Committee shall have the sole discretion and authority to administer and interpret the Plan, and the decisions of the Board and the Compensation Committee shall in every case be final and binding on all persons having an interest in the Plan. Notwithstanding the foregoing, certain aspects of the Plan may be administered by the Chief Executive Officer or the Company's management, as specifically provided in the Plan, and in such event, the Chief Executive Officer or the Company's management shall have the sole discretion and authority to administer and interpret such aspects of the Plan, and the decisions of the Chief Executive Officer or the Company's management shall in such cases be final and binding.

12. Definitions.

"***Base Salary***" for a Participant means the total amount of base salary or base pay actually paid to the Participant during the period of his/her participation in the Plan for the Plan Year, rather than the Participant's base salary level or base pay level at any particular point during the Plan Year (*e.g.*, the Base Salary for a Participant whose base salary or base pay is adjusted during the Plan Year, for a Participant who is hired during the Plan Year, or for a Participant whose employment terminates during the Plan Year will be the total amount of base salary or base pay actually paid to the Participant during the period of his/her participation in the Plan for the Plan Year). Base Salary does not include any expense reimbursements, relocation payments, incentive compensation or bonuses, amounts received as a result of equity awards, overtime or shift differential payments or similar one-time or unusual payments. Any salary or pay earned for periods during which a Participant is on disciplinary action are excluded from Base Salary.

"***Board***" means the Board of Directors of Jazz Pharmaceuticals plc.

"***Bonus***" means a Participant's actual bonus for a Plan Year as determined in accordance with Section 5 or Section 6, if applicable.

"***Bonus Pool***" for a Plan Year means the aggregate dollar amount set by the Board or the Compensation Committee for the payment of Bonuses for such Plan Year to Participants as set forth in Section 4.

"***Chief Executive Officer***" means the Chief Executive Officer of Jazz Pharmaceuticals plc.

"***Compensation Committee***" means the Compensation Committee of the Board.

"***Employment Start Date***" means the first business day on which a Participant is an active regular employee of a U.S. Affiliate of the Company, on the U.S. Affiliate's payroll, as applicable.

"***Executive Committee Member***" means an employee of the Company who serves as a member of the Company's executive committee, as determined by the Chief Executive Officer from time to time.

"***Participant***" means an active regular employee of a U.S. Affiliate of the Company who meets all of the eligibility requirements set forth in Section 2.

"***Permanent Disability***" means that a Participant has become permanently disabled under any policy or program of disability income insurance then in force covering such Participant.

"***Plan***" means this Jazz Pharmaceuticals plc Cash Bonus Plan (U.S. Affiliates).

"***Plan Year***" means the calendar year.

"***Section 16 Officer***" means an individual who has been designated by the Board as an "officer" of Jazz Pharmaceuticals plc for the purposes of Section 16 of the Securities Exchange Act of 1934, as amended, and Rule 16a-1(f) thereunder.

"***Target Bonus***" means, for a Participant for a Plan Year, the percentage of Base Salary, based on such Participant's position and/or responsibility level in a Plan Year, that represents the amount of Bonus that such Participant may receive for such Plan Year, as may be adjusted with respect to such Participant for such Plan Year in the discretion of the Board, the Compensation Committee or the Chief Executive Officer or his or her delegate, as applicable.

"***U.S. Affiliate***" means any "parent" or "subsidiary" of the Company, as such terms are defined in Rule 405 of the Securities Act of 1933, as amended, that is organized under the laws of the United States.

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As approved by the Compensation Committee of the Board of Directors of Jazz Pharmaceuticals plc on 13 February 2013, as amended on 4 November 2015, as amended and restated on 2 November 2016, as amended and restated on 31 October 2018, as amended and restated on 30 October 2019, and as amended and restated on 27 October 2020.

[***] = CERTAIN PORTIONS OF THIS AGREEMENT HAVE BEEN OMITTED BECAUSE THE OMITTED PORTIONS ARE BOTH (I) NOT MATERIAL AND (II) IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL.

Exhibit 10.12

AMENDED AND RESTATED LICENSE AGREEMENT

This Amended and Restated License Agreement ("**Agreement**") is entered into as of October 14, 2020 (the "**Restatement Effective Date**"), by and between **Pharma Mar, S.A.**, a corporation organized under the laws of Spain, with its principal place of business at 1 Avda. De los Reyes, 28770 - Colmenar Viejo, Madrid, Spain ("**PharmaMar**"), and **Jazz Pharmaceuticals Ireland Limited**, a corporation organized under the laws of Ireland, with its principal place of business at Fifth Floor, Waterloo Exchange, Waterloo Road, Dublin 4, Ireland ("**Jazz**"). PharmaMar and Jazz are sometimes referred to herein individually as a "**Party**" and collectively as the "**Parties**".

Recitals

Whereas, PharmaMar is a specialty biopharmaceutical company that is developing lurbinectedin (Zepzelca™) and owns or controls patent rights and know-how relating thereto;

Whereas, Jazz is a biopharmaceutical company with expertise in the development, marketing, and commercialization of pharmaceutical products;

Whereas, the Parties executed that certain License Agreement dated December 19, 2019 (the "**Original License Agreement**," and such date the "**Effective Date**") pursuant to which Jazz obtained from PharmaMar, and PharmaMar granted to Jazz an exclusive license to commercialize lurbinectedin in the United States; and

Whereas, Jazz now desires to obtain from PharmaMar, and PharmaMar is willing to grant to Jazz, among others, an exclusive license to commercialize lurbinectedin in Canada, and the Parties wish to amend and restate the Original License Agreement to grant such rights on the terms and subject to the conditions set forth herein.

Agreement

Now, Therefore, in consideration of the foregoing premises and the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Jazz and PharmaMar hereby agree as follows:

1. Definitions

1.1 **"Accounting Standards"** means (a) with regard to Jazz, U.S. Generally Accepted Accounting Principles (GAAP) or (b) with regard to PharmaMar, International Financial Reporting Standards (IFRS); in either case, consistently applied throughout the organization of a particular entity and its Affiliates.

1.2 "**Act**" means the United States Federal Food, Drug and Cosmetic Act, 21 U.S.C. §§301 et seq., as amended from time to time.

1.3 "**Additional Indication**" means an Indication other than SCLC.

1.4 "**Additional Indication Pivotal Trial**" has the meaning provided in Section 4.2(b).

1.5 "**Additional Indication Pivotal Trial Budget**" has the meaning provided in Section 4.2(b).

1.6 "**Additional Indication Pivotal Trial Development Plan**" has the meaning provided in Section 4.2(b).

1.7 "**Additional Indication Regulatory Milestone**" has the meaning provided in Section 8.5.

1.8 "**Additional Indication Regulatory Milestone Payments**" has the meaning provided in Section 8.5.

1.9 "**Adverse Safety Impact**" has the meaning provided in Section 3.4(b).

1.10 "**Affiliate**" means, with respect to any Entity (including a Party to this Agreement), any other Entity controlled by, controlling, or under common control with such Entity. For the purposes of this definition, the term "control" (including, with correlative meanings, the terms "controlled by" and "under common control with") means the possession, directly or indirectly, of more than 50% of the outstanding voting securities of a corporation or comparable equity interest in any other type of Entity, or otherwise having the power to direct the management and policies of such Entity.

1.11 "**Annual Commercialization Plan**" means the plan for Commercialization of the Licensed Product in the Jazz Territory for each Calendar Year during the Term as required by Section 7.5, that contains the details for the Commercialization activities to be conducted with respect to the Licensed Product that are required by Section 7.5.

1.12 "**Annual Sales Forecast Plan**" or "**ASFP"** has the meaning provided in Section7.8(a)(i).

1.13 "**Anti-Corruption Laws**" means the U.S. Foreign Corrupt Practices Act, as amended, the Organization for Economic Co-operation and Development (OECD) Convention

on combating bribery of foreign public officials in international business transactions, and any other applicable anti-corruption laws.

1.14 "**Applicable Laws**" means the applicable provisions of any and all national, supranational, regional, state and local laws, treaties, statutes, rules, regulations, administrative codes, guidances, ordinances, judgments, decrees, directives, injunctions, orders, permits of or from any court, arbitrator, regulatory authority or governmental agency or authority having jurisdiction over or related to the subject item, including the Act, Anti-Corruption Laws and Export Control Laws. Applicable Laws shall also include all applicable legal requirements to pharmaceutical industry.

1.15 "**ASFP Term**" means [***] starting after [***].

1.16 "**Atlantis Development Plan**" has the meaning provided in Section 4.1(a)(i).

1.17 "**Atlantis Trial**" means the phase III randomized clinical trial of lurbinectedin (PM01183)/doxorubicin (DOX) versus cyclophosphamide (CTX), doxorubicin (DOX) and vincristine (VCR) (CAV) or topotecan as treatment in patients with SCLC who failed one prior platinum-containing line to determine whether there is a difference in Overall Survival (OS) between lurbinectedin (PM01183)/doxorubicin (DOX) and a control arm consisting of best investigator's choice between CAV or topotecan and to analyze progression-free survival (PFS) by an Independent Review Committee (IRC); such clinical trial has the ClinicalTrials.gov Identifier: NCT02566993.

1.18 "**Best Knowledge**" means, in respect of a Party, that such Party´s [***].

1.19 "**Bulk Vials**" means units of Licensed Product in the final dosage form containing the Licensed API as an active ingredient, in primary packaging but without secondary packaging, all meeting the specifications therefore as described in the Quality Agreement.

1.20 "**Business Day**" means a day other than a Saturday, Sunday or bank or other public holiday in Dublin, Ireland or Madrid, Spain.

1.21 "**Calendar Quarter**" means each successive period of three (3) calendar months commencing on January 1, April 1, July 1 and October 1, except that the first Calendar Quarter of the Term shall commence on the Effective Date and end on the day immediately prior to the first to occur of January 1, April 1, July 1 or October 1 after the Effective Date, and the last Calendar Quarter shall end on the last day of the Term.

1.22 "**Calendar Year**" means each successive period of twelve (12) calendar months commencing on January 1 and ending on December 31, except that the first Calendar Year of the Term shall commence on the Effective Date and end on December 31 of the year in which the Effective Date occurs and the last Calendar Year of the Term shall commence on January 1 of the year in which the Term ends and end on the last day of the Term.

1.23 "**Canada**" means the country Canada, including its possessions and territories.

1.24 "**Canada Annual Sales Forecast Plan**" or "**Canada ASFP"** has the meaning provided in Section7.8(a)(i).

1.25 "**Change of Control**" means, with respect to an Entity, (a) the sale to a Third Party of all or substantially all of the assets of such Entity relating to this Agreement, in one or a series of related transactions to which such Entity is a party; or (b) the acquisition of control of such Entity by a Third Party by means of any transaction or series of related transactions to which such Entity is a party (i) wherein such Third Party acquires more than fifty percent (50%) of the voting equity securities of such Entity or (ii) that is a merger, acquisition or consolidation of such Entity by or with such Third Party in which the voting securities of such entity outstanding immediately prior thereto cease to represent at least fifty percent (50%) of the combined voting power of the surviving entity immediately after such merger, reorganization or consolidation.

1.26 "**Clinical Trial**" means any clinical study involving the administration of a Licensed API or Licensed Product to a human subject for the purpose of evaluating the safety, efficacy, performance or other characteristic of such Licensed API or Licensed Product, including all Medical Affairs Clinical Trials.

1.27 "**Combination Product**" means a Licensed Product that is sold in a finished dosage form containing Licensed API in combination with one or more Other Actives.

1.28 "**Commercialization Activities**" has the meaning provided in Section 7.1.

1.29 "**Commercialize**" means to undertake those activities traditionally undertaken in the pharmaceutical industry to commercially exploit the Licensed Products, including, without limitation, pre-launch and launch activities, pricing and reimbursement activities, marketing, promoting, detailing, distributing, offering for sale and selling the Licensed Products, reporting of adverse events in patients, and interacting with regulatory or other authorities regarding any of the foregoing. "**Commercialization**" shall have a correlative meaning.

1.30 "**Commercially Reasonable Efforts**" means, with respect to the efforts to be expended by a Party to develop, register and commercialize any Licensed Product, [***], taking into account [***]. Without limiting the foregoing, to the extent it is commercially reasonable to do so, commercially reasonable efforts will [***].

1.31 "**Committee**" means the JDC, JCC or any Working Group, as applicable.

1.32 "**Committee Dispute**" has the meaning provided in Section 3.4(a).

1.33 "**Competing Program**" has the meaning provided in Section 2.4(c).

1.34 "**Confidential Information**" has the meaning provided in Section 11.1.

1.35 "**Confidentiality Agreement**" means the Confidential Disclosure Agreement between Jazz and PharmaMar dated [***], as amended.

1.36 "**Control**" or "**Controlled by**" means, with respect to any Patent Rights, Information or other intellectual property rights, the possession by a Party of the ability (whether by ownership, license or other right, other than pursuant to a license granted to such Party under this Agreement) to grant access to, or a license or sublicense of, such Patent Rights, Information or other intellectual property rights without violating the terms of any agreement or other arrangement with any Third Party.

1.37 "**Co-Promotion Agreement**" has the meaning provided in Section 7.9(b).

1.38 "**Co-Promotion Option**" has the meaning provided in Section 7.9(a).

1.39 "**CPI**" means (a) with respect to Jazz, the [***] and (b) with respect to PharmaMar, [***].

1.40 "**CPI Adjustment**" means the percentage increase or decrease, if any, in the CPI applicable to FTE personnel for the most recent [***] available at the time of budgeting for the [***] for which the adjustment is being made.

1.41 "**Defensive Action**" has the meaning provided in Section 10.5(a).

1.42 "**Detail**" means a face-to-face, interactive (including through video-conference, internet, virtual or other similar means that allow for real-time communication and the exchange of visual information) selling presentation for a Licensed Product by a representative of a Party's sales force to an eligible HCP in the Jazz Territory in accordance with Applicable Law during which time the Promotion Message involving the Licensed Product is presented [***] and, in each case, the Promotional Message is [***], *provided* that the following shall not constitute Details: [***]. For the avoidance of doubt, NAMs, reimbursement specialists and MSLs do not Detail the Licensed Product.

1.43 "**Develop**" means to undertake those activities reasonably related to planning and undertaking research and preclinical development activities and clinical trials to obtain a regulatory approval from an applicable Regulatory Authority of the Jazz Territory in a Licensed Indication, including filing for regulatory approval in the Jazz Territory and interacting with each such Regulatory Authority. "**Development**" shall have a correlative meaning. For clarity, Develop shall not include those research and preclinical development activities and those clinical trials intended to obtain a regulatory approval from the EMA and other Regulatory Authorities in the PharmaMar Territory. In addition, "Develop" does not include Medical Affairs Studies.

1.44 "**Development Costs**" means, with respect to the SCLC Post-Approval Commitment Studies, the sum of [***] and as accounted for by Jazz (or its Affiliates) in accordance with Jazz's Accounting Standards.

1.45 "**Dollar**" means a U.S. dollar, and "**$**" shall be interpreted accordingly.

1.46 "**Drug Conjugate**" means any composition of matter wherein a product is linked or attached to a targeting moiety, including, without limitation, an antibody, protein, RNA, DNA or similar construct.

1.47 "**Enforcement Action**" has the meaning provided in Section 10.4(b)(i).

1.48 "**Enforcing Party**" has the meaning provided in Section 10.4(b)(iii).

1.49 "**Entity**" means any corporation, general partnership, limited partnership, limited liability partnership, joint venture, estate, trust, company (including any limited liability company or joint stock company), firm or other enterprise, association, organization or entity.

1.50 "**European Union**" means all countries that are officially recognized as member states of the European Union at any particular time. For clarity, European Union for the purposes of this Agreement shall at all times include the United Kingdom even if the United Kingdom exits the European Union prior to or during the Term.

1.51 "**Executive Officers**" means with respect to PharmaMar, its [***], and with respect to Jazz, [***].

1.52 "**Expanded Access Programs**" or "**EAP**" means those programs that allows the use of an authorized medicine before Regulatory Approval is obtained for patients in the Territory who have a disease with no satisfactory authorized therapies and who cannot enter a Clinical Trial and that are intended to facilitate the availability to patients of new treatment options under development.

1.53 "**Expired Territory**" has the meaning provided in Section 13.5(b).

1.54 "**Export Control Laws**" means: (a) all applicable U.S. laws and regulations relating to sanctions and embargoes imposed by OFAC; (b) all applicable U.S. export control laws, including the Arms Export Controls Act (22 U.S.C. Ch. 39), the International Emergency Economic Powers Act (50 U.S.C. §§ 1701 et seq.), the Trading With the Enemy Act (50 U.S.C. app. §§ 1 et seq.), the Export Administration Act of 1979 (50 U.S.C. app. §§ 2401 et seq.), International Boycott Provisions of Section 999 of the U.S. Internal Revenue Code of 1986, and all rules, regulations and executive orders relating to any of the foregoing, including but not limited to the International Traffic in Arms Regulations (22 C.F.R. §§ 120 et seq.), the Export Administration Regulations (15 C.F.R. §§ 730 et. seq.), and the regulations administered by the Office of Foreign Assets Controls of the United States Department of the Treasury; and (c) all export controls imposed on any Licensed Product by any country or organization or nations within the jurisdiction of which a Party operates or does business.

1.55 "**FDA**" means the U.S. Food and Drug Administration, or any successor Regulatory Authority thereto in the U.S. having substantially the same function.

1.56 "**Finished Product**" means single finished dosage form of Licensed Product consisting in a ready-to-sell pack including immediate packaging cartons, labels and package

leaflet of the Licensed Product and any unique identifiers that are required to be inserted in the packaging components of the Product under Applicable Laws, which are approved by Regulatory Authorities of the Jazz Territory.

1.57 "**First Commercial Sale**" means the first sale of a Licensed Product for which revenue has been recognized by Jazz or its Affiliates or Sublicensees for use or consumption by the general public of such Licensed Product after Regulatory Approval (and pricing or reimbursement approval, if legally required for such sale) for such Licensed Product has been obtained; provided, however, that the following shall not constitute a First Commercial Sale:

(a) any [***];

(b) any use of such Licensed Product in [***]; and

(c) [***].

The Parties agree and acknowledge that the First Commercial Sale of Licensed Product occurred on [***].

1.58 **"FTE"** means the equivalent of a full-time employee's work time over a 12-month period (including normal vacations, sick days and holidays).

1.59 "**FTE Costs**" means, for a given period, the FTE Rate multiplied by the number of FTEs in such period utilized in connection with a particular activity.

1.60 "**FTE Rate**" means a rate of [***] per FTE; *provided* that, starting January 1, 2021, such rate shall be subject to an annual CPI Adjustment (as of January 1 of a given Calendar Year).

1.61 "**Full Approval**" shall mean that the Licensed Product (a) has received Regulatory Approval from the FDA in a subsequent filing, after submission and approval under the Subpart H regulations or their equivalents, without the FDA requiring any further confirmatory clinical trials to be conducted or (b) has received Regulatory Approval from the FDA without the FDA requiring any further confirmatory clinical trials to be conducted.

1.62 "**GCP**" means current good clinical practices, as set forth in 21 C.F.R. Parts 50, 54, 56, 312 and 314 and as interpreted by relevant ICH guidelines; in each case, as amended from time to time.

1.63 "**Generic Product**" means, with respect to a particular Licensed Product sold by Jazz or any of its Affiliates or Sublicensees in the Jazz Territory, a pharmaceutical product sold by a Third Party (other than a Sublicensee or any other Third Party in a chain of distribution originating from Jazz or any of its Affiliates or Sublicensees) in the Jazz Territory: (a) that contains Licensed API (and, if applicable, the same Other Active(s) as such Licensed Product); and (b) has received Regulatory Approval from the relevant Regulatory Authority in such country in reliance on the Regulatory Approval for such Licensed Product in the Jazz Territory.

1.64 "**GLP**" means current good laboratory practices, as set forth in 21 C.F.R. Part 58 and as interpreted by relevant ICH guidelines; in each case, as amended from time to time.

1.65 "**GMP**" means the current good manufacturing practices and standards for the production of drugs and finished pharmaceuticals, as set forth in 21 C.F.R. Parts 210 and 211 and as interpreted by relevant ICH guidelines; in each case, as amended from time to time.

1.66 "**Governmental Authority**" means any court, agency, department, authority or other instrumentality of any national, supra-national, state, county, city or other political subdivision.

1.67 "**HCPs**" means healthcare professionals or healthcare providers.

1.68 "**Health Canada**" means Health Canada, or any successor Regulatory Authority thereto in Canada having substantially the same function.

1.69 "**HSR Act**" means the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, and the rules and regulations promulgated thereunder, or foreign equivalent thereof under Applicable Law.

1.70 "**HSR Clearance**" means, as pertaining to this Agreement, the expiration or termination of all applicable waiting periods and requests for information (and any extensions thereof) under the HSR Act.

1.71 "**ICC Rules**" has the meaning provided in Section 15.2(a).

1.72 "**ICH**" means the International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use.

1.73 "**IMRC**" has the meaning provided in Section 7.8(a)(ii).

1.74 "**IND**" means an investigational new drug application, clinical study application, clinical trial exemption, or similar application or submission filed with or submitted to a Regulatory Authority in a jurisdiction that is necessary to commence human clinical trials in such jurisdiction, including any such application filed with the FDA pursuant to 21 C.F.R. Part 312 and any foreign equivalent.

1.75 "**Indication**" means a specific disease, disorder or condition which is recognized by Regulatory Authorities of Jazz Territory as a disease, disorder or condition.

1.76 "**Information**" means any and all tangible and intangible (a) techniques, technology, practices, trade secrets, inventions (whether patentable or not), methods, knowledge, know-how, skill, experience, test data and results (including pharmacological, toxicological and clinical test data and results), analytical and quality control data, results or descriptions, software and algorithms, and (b) compositions of matter, cells, cell lines, assays, animal models and physical, biological or chemical material; that, in each case, are not in the public domain.

1.77 "**Invention**" means any invention, whether or not patentable, made, conceived, created, generated or first reduced to practice (together with all intellectual property rights therein) in the course and as a result of the conduct of activities conducted pursuant to this Agreement

1.78 "**Investigator Sponsored Studies**" or "**ISS**" means those Medical Affairs Studies involving the Licensed API or the Licensed Product which are not sponsored by a Party, its Affiliates, Sublicensees or its Third Party Partners, but by an investigator, an institution or any other Third Party sponsor even if such Studies are supported by such Party by providing the Licensed Products as study drug and/or by providing financial support and/or otherwise.

1.79 "**Jazz Canada SCLC Post-Approval Commitment Studies**" has the meaning provided in Section 4.1(b)(iii).

1.80 "**Jazz Canada SCLC Post-Approval Commitment Studies Development Plan**" has the meaning provided in Section 4.1(b)(iii).

1.81 "**Jazz Canada SCLC Post-Approval Commitment Studies Development Budget**" has the meaning provided in Section 4.1(b)(iii).

1.82 "**Jazz Canada Territory**" has the meaning provided in Section 1.95.

1.83 "**Jazz Generic Inventions**" has the meaning provided in Section 10.1(e).

1.84 "**Jazz Generic Patents**" means any Patent Right claiming a Jazz Generic Invention.

1.85 "**Jazz Know-How**" means solely any Information Controlled as of the Effective Date or during the Term (including during the Term of the Original License Agreement) by Jazz or any of its Affiliates that [***]. For clarity, Jazz Know-How does not include [***].

1.86 "**Jazz License**" has the meaning provided in Section 2.1.

1.87 "**Jazz Patents**" means any Patent Right that is Controlled by Jazz or its Affiliates and Sublicensees as of the Effective Date or during the Term (including during the Term of the Original License Agreement) that claims [***]. For clarity, Jazz Patents shall include [***].

1.88 "**Jazz Proprietary Component**" has the meaning provided in Section 10.1(d).

1.89 "**Jazz Prosecuted Patents**" has the meaning provided in Section 10.2(c).

1.90 "**Jazz Solely Invented Specific Combination Inventions**" means any Specific Combination Invention conceived, created or first reduced to practice solely by or on behalf of Jazz, its Affiliates or Sublicensees.

1.91 "**Jazz Solely Invented Specific Inventions**" means any Specific Invention conceived, created or first reduced to practice solely by or on behalf of Jazz, its Affiliates or Sublicensees

1.92 "**Jazz Specific Combination Inventions**" has the meaning provided in Section 10.1(d).

1.93 "**Jazz Standard Trade Dress and Style**" has the meaning provided in Section 10.9(e)

1.94 "**Jazz Technology**" means Jazz Patents and Jazz Know-How.

1.95 "**Jazz Territory**" means the U.S. (the "**Jazz U.S. Territory**") and Canada (the "**Jazz Canada Territory**"), excluding any Terminated Territory.

1.96 "**Jazz U.S. Territory**" has the meaning provided in Section 1.95.

1.97 "**Joint Generic Inventions**" has the meaning provided in Section 10.1(e).

1.98 "**Joint Generic Patent**" means any Patent Right claiming a Joint Generic Invention.

1.99 "**Joint Patents**" means Joint Specific Combination Patents and Joint Generic Patents.

1.100 "**Joint Specific Combination Invention**" has the meaning provided in Section 10.1(d).

1.101 "**Joint Specific Combination Patent**" means any Patent Right claiming a Joint Specific Combination Invention.

1.102 "**JCC**" has the meaning provided in Section 3.1.

1.103 "**JDC**" has the meaning provided in Section 3.1.

1.104 "**Licensed API**" means (a) that composition of matter with the chemical structure identified more specifically in **Exhibit A**, otherwise known as lurbinectedin (PM1183); (b) any [***]; (c) any pro-drug, metabolite or degradant of any of the foregoing; or (d) any salt, free acid or base, crystal, co-crystal, hydrate, anhydrous form, solvate, ester, polymorph, isomer, regioisomer or stereoisomer (including enantiomer and diastereoisomer) of any of the foregoing.

1.105 "**Licensed Indication**" means the prevention, treatment, mitigation or cure of any disease, indication or medical condition, including cancer, whether as monotherapy or in combination with other drugs or biologics.

1.106 "**Licensed Product**" means any pharmaceutical product containing or comprising a Licensed API as an active ingredient (whether or not as the sole active ingredient) in a form suitable for administration to a human.

1.107 "**Licensed Product Data**" means any and all results of research, preclinical studies, including *in vitro* and *in vivo* studies, clinical trials and other testing of Licensed API or Licensed Product conducted by or on behalf of a Party or any of its Affiliates (or in the case of PharmaMar, its Third Party Partners) to the extent Controlled by such Party either before the Effective Date or during the Term (including during the Term of the Original License Agreement), and any and all other data generated by or on behalf of a Party related to the development, manufacture or commercialization of Licensed API or Licensed Product, including safety data, biological, chemical, pharmacological, toxicological, pharmacokinetic, clinical, CMC, analytical, quality control, and other data, results and descriptions and, if requested, raw data associated with the conduct of any Clinical Trial for the Licensed API or Licensed Product (including the SCLC Post-Approval Commitment Studies); provided however that, except for that data that is necessary for Jazz to carry out its regulatory and quality obligations as the holder of an NDA for the Licensed Product, Licensed Product Data shall not include any data or Information which is included in any section of the DMF other than Section S of Module 3 of the NDA in the Jazz U.S. Territory (or its foreign equivalent in the Jazz Canada Territory) and is not otherwise publicly available.

1.108 "**Major Tumour**" means the following indications: (a) [***] and (b) any other , in each case of (a) and (b),[***] with a population of over [***], as determined in accordance with Section 5.4(c)(iii). Notwithstanding the foregoing, the Parties agree that none of the following are Major Tumours: [***]. For the avoidance of doubt, [***] shall not be deemed a Major Tumour.

1.109 "**Medical Affairs**" means any and all processes and activities directed to interacting with physicians, healthcare professionals and other medical stakeholders with respect to the utilization, research and other medical (but not Commercialization) activities for a pharmaceutical product (including the Licensed Product), including: Medical Affairs Studies, Investigator Sponsored Studies; medical and scientific information; responding to external inquiries or complaints; medical education; health economics and outcomes research (HECOR, HEMAR); speaker programs; advisory boards; grants, fellowships and sponsorships; drug safety; local country government affairs; deployment of field-based medical science liaisons (MSLs); medical doctors in the field (separate from medical science liaisons); publications; medical communications; field medical education; registries; advocacy support; and slide libraries/kits, reprints and publication planning. For clarity, Medical Affairs excludes any Clinical Trial that is (a) intended for use as a basis for obtaining Regulatory Approval (including for an additional indication or other label expansion or otherwise) or (b) a SCLC Post-Approval Commitment Study or other confirmatory trial requested by Regulatory Authorities.

1.110 "**Medical Affairs Studies**" means any studies conducted within a country of the Territory after the granting of the Regulatory Approval of the Product in such country including ISS sponsored by an investigator or institution (and not in the name of either Party) under whose

supervision such study is being conducted and Clinical Trials sponsored by a Party; *provided* that Medical Affairs Studies shall exclude any such Clinical Trial which is (a) sponsored by a Party and conducted pursuant to a Regulatory Filing held in the name of a Party and whose primary purpose is to support a Regulatory Filing for the expansion or other modification of the label claims for such Product and (b) a SCLC Post-Approval Commitment Study or other confirmatory trial requested by Regulatory Authorities.

1.111 "**MSL**" means, with respect to a Party, a medical science liaison employed by a Party or any of its Affiliates to perform activities with respect to a Licensed Product.

1.112 "**Mutual Canada SCLC Post-Approval Commitment Studies Development Plan**" has the meaning provided in Section 4.1(b)(ii).

1.113 "**Mutual Canada SCLC Post-Approval Commitment Studies**" has the meaning provided in Section 4.1(b)(ii).

1.114 "**NAM**" means an account manager responsible for seeking coverage, coding and reimbursement of a Product by payers and managed market plans, including national account managers and regional account managers.

1.115 "**NDA**" means: (a) in the United States, as applicable, a New Drug Application (as more fully described in 21 CFR Part 314.50, et seq., or its successor regulation) or a Biologics License Application (as more fully described in 21 CFR Part 601, et seq., or its successor regulation), filed with the FDA, or any successor application to either of the foregoing; or (b) in any other country or group of countries, the equivalent application or submission for approval to market a pharmaceutical product filed with the governing Regulatory Authority in such country or group of countries.

1.116 "**NDA Approval**" shall mean a Regulatory Approval by the FDA (whether under the Subpart H regulations or their equivalents or not) or by Health Canada, in each case, to market and/or promote a Licensed Product.

1.117 "**Net Sales**" means, with respect to any Licensed Product, the [***] by Jazz and its Affiliates and Sublicensees for sales of such Licensed Product in the Licensed Indication in the Jazz Territory to unaffiliated Third Parties, less the following deductions [***]:

(a) [***];

(b) [***];

(c) [***];

(d) [***];

(e) [***];

(f) [***];

(g) tariffs, taxes, custom duties and other governmental charges [***] levied on or measured by [***];

(h) [***]; and

(i) [***].

Notwithstanding the foregoing, amounts received or invoiced by Jazz or its Affiliates or Sublicensees for the sale of Licensed Products among Jazz and its Affiliates and Sublicensees shall not be included in the computation of Net Sales hereunder. Net Sales shall be determined from the books and records of the Selling Party and its Affiliates maintained in accordance with Accounting Standards consistently applied.

Notwithstanding the foregoing, "Net Sales" shall not include [***]. Further, [***], shall be disregarded in determining Net Sales.

Net Sales for a Combination Product in a country shall be calculated as follows:

(i) If the Licensed Product and Other Active(s) each are sold separately in such country, Net Sales will be calculated by multiplying the total Net Sales (as described above) of the Combination Product by the fraction A/(A+B), where A is the public or list price in such country of the Licensed Product sold separately in the same formulation and dosage, and B is the (sum of the) public or list price(s) in such country of the Other Active(s) sold separately in the same formulation and dosage, during the applicable Calendar Year.

(ii) If the Licensed Product is sold independently of the Other Active(s) in such country, but the public or list price of the Other Active(s) cannot be determined, Net Sales will be calculated by multiplying the total Net Sales (as described above) of such Combination Product by the fraction A/C, where A is the public or list price in such country of such Licensed Product sold independently and C is the public or list price in such country of the Combination Product.

(iii) If the Other Active(s) are sold independently of the Licensed Product therein in such country, but the public or list price of such Licensed Product cannot be determined, Net Sales will be calculated by multiplying the total Net Sales (as described above) of such Combination Product by the fraction [1-B/C], where B is the (sum of the) public or list price(s) in such country of the Other Active(s) and C is the public or list price in such country of the Combination Product.

(iv) If the public or list price of such Licensed Products and the Other Active(s) cannot be determined, Net Sales will be calculated by multiplying the total Net Sales (as described above) of such Combination Product by a fraction [***]. If [***].

1.118 "**Notice of Compliance**" means a notification, issued pursuant to paragraph C.08.004(1)(a), indicating that a manufacturer has complied with sections C.08.002 or C.08.003 and C.08.005.1 of the Food and Drug Regulations issued by the Government of Canada.

1.119 "**OFAC**" means the U.S. Department of Treasury's Office of Foreign Assets Control (or its successor office or other body having substantially the same function).

1.120 "**Other Active**" means any active pharmaceutical ingredient other than Licensed API.

1.121 "**Patent Rights**" means (a) all national, regional and international patents and patent applications filed in any country of the world, including without limitation provisional patent applications, (b) all patent applications filed either from such patents and patent applications or from a patent application claiming priority from either of these, including any continuation, continuation-in-part, division, provisional, converted provisional and continued prosecution applications, or any substitute applications, (c) any patent issued with respect to or in the future issued from any such patent applications including utility models, petty patents and design patents and certificates of invention, and (d) any and all extensions or restorations by existing or future extension or restoration mechanisms, including revalidations, reissues, reexaminations and extensions (including any supplementary protection certificates and the like) of the foregoing patents or patent applications.

1.122 "**Patent Term Extensions**" has the meaning provided in Section 10.3.

1.123 "**Person**" means any individual, Entity or Governmental Authority.

1.124 "**PharmaMar Generic Inventions**" has the meaning provided in Section 10.1(e).

1.125 "**PharmaMar Know-How**" means (a) all Information Controlled by PharmaMar or its Affiliates as of the Effective Date or during the Term (including during the Term of the Original License Agreement) that [***]. PharmaMar Know-How does not include [***].

1.126 "**PharmaMar Patents**" means (a) all Patent Rights Controlled by PharmaMar or its Affiliates as of the Effective Date or during the Term (including during the Term of the Original License Agreement) that claim [***]. PharmaMar Patents shall include [***]. **Exhibit B** shall be updated no less frequently than [***] by PharmaMar during the Term to include all PharmaMar Patents (except for Joint Specific Combination Inventions for which Jazz shall provide with updates of such **Exhibit B** no less frequently than [***] during the Term).

1.127 "**PharmaMar Prosecuted Patents**" has the meaning provided in Section 10.2(b).

1.128 "**PharmaMar Technology**" means the PharmaMar Patents and the PharmaMar Know□ How.

1.129 "**PharmaMar Territory**" means all countries and jurisdictions in the world other than the Jazz Territory.

1.130 "**Pivotal Trial**" means: (a) a human Clinical Trial that would satisfy the requirements for a Phase 3 study as defined in 21 CFR § 312.21(c) or any foreign equivalent (or any amended or successor regulations); or (b) any other human Clinical Trial that the applicable Regulatory Authority has agreed [***], is sufficient to form the primary basis of an efficacy

claim in an NDA submission, regardless of whether the sponsor of such trial characterizes or refers to such trial as a "Phase 3," "Phase 2b" or "Phase 2b/3" trial (or otherwise) in the applicable protocol, on clinicaltrials.gov, or in any other context.

1.131 "**Pivotal Trial Costs**" means, with respect to a given Joint Additional Indication Pivotal Trial, the sum of [***], in each case, in accordance with the applicable Joint Additional Indication Pivotal Trial Budget and as accounted for by each Party (or its Affiliates, Sublicensees or Third Party Partners) in accordance with such Party's Accounting Standards.

1.132 "**Positive Results**" means, for an Additional Indication Pivotal Trial, (a) that [***] and (b) for an Additional Indication Pivotal Trial not being a Phase 3 study, that [***].

1.133 "**Pricing Approval**" means, in any country where a Governmental Authority or Regulatory Authority authorizes reimbursement for, or approves or determines pricing for, biopharmaceutical drugs, receipt (or, if required to make such authorization, approval or determination effective, publication) of such reimbursement authorization or pricing approval or determination (as the case may be).

1.134 "**Product Trademarks**" has the meaning provided in Section 10.9(a).

1.135 "**Promotion Message**" means the set of messages and communications prepared by Jazz intended to promote the use and/or prescribing of the Licensed Product.

1.136 "**Proposed Additional Indication Pivotal Trial**" has the meaning provided in Section 4.2(a).

1.137 "**Prosecution and Maintenance**" has the meaning provided in Section 10.2(b).

1.138 "**PV Agreement**" has the meaning provided in Section 5.10.

1.139 "**Quality Agreement**" has the meaning provided in Section 6.2.

1.140 "**Regulatory Approval**" means all approvals from the relevant Regulatory Authority in a given country necessary to market and sell a pharmaceutical product in such country, including Pricing Approvals if required for marketing or sale of such product in such country.

1.141 "**Regulatory Authority**" means any country, federal, supranational, state or local regulatory agency, department, bureau or other governmental or regulatory authority having the administrative authority to regulate the development or marketing of pharmaceutical products in any country or other jurisdiction.

1.142 "**Regulatory Exclusivity**" means marketing or manufacturing exclusivity conferred by the applicable Regulatory Authority in a country or jurisdiction on the holder of a Regulatory Approval for a pharmaceutical product in such country or jurisdiction, including, by way of example and not of limitation, regulatory data exclusivity, orphan drug exclusivity, new chemical entity exclusivity and pediatric exclusivity.

1.143 "**Regulatory Filing**" means any and all INDs, NDAs, drug dossiers or drug master files filed, requests for orphan designation, and Regulatory Approvals and orphan designations obtained, with respect to Licensed API or Licensed Product, including all amendments, supplements, annual reports and the like filed with or otherwise provided to the applicable Regulatory Authority.

1.144 "**Regulatory Milestone**" has the meaning provided in Section 8.4.

1.145 "**Regulatory Milestone Payment**" has the meaning provided in Section 8.4.

1.146 "**Remedial Action**" has the meaning provided in Section 5.8.

1.147 "**Royalty Term**" has the meaning provided in Section 8.7(b).

1.148 "**Sales Force**" means, with respect to a Party, its sales organization, including field based sales representatives that [***].

1.149 "**Sales Milestone**" has the meaning provided in Section 8.6.

1.150 "**Sales Milestone Payment**" has the meaning provided in Section 8.6.

1.151 "**SCLC**" means small cell lung cancer.

1.152 "**SCLC Initial Indication**" shall mean the treatment of SCLC as second or subsequent treatment line in monotherapy or in combination with doxorubicin.

1.153 "**SCLC Post-Approval Commitment Studies**" means U.S. SCLC Post-Approval Commitment Studies, Mutual Canada SCLC Post-Approval Commitment Studies, or Jazz Canada SCLC Post-Approval Commitment Studies, as applicable.

1.154 "**Specific Combination Invention**" has the meaning provided in Section 10.1(c).

1.155 "**Specific Inventions**" has the meaning provided in Section 10.1(b).

1.156 "**Sublicensee**" means a Third Party sublicensee under the Jazz License, whether such Third Party's sublicense was granted to it directly by Jazz or its Affiliate or indirectly through one or more tiers of sublicense.

1.157 "**Supply Agreement**" has the meaning provided in Section 6.1.

1.158 "**Supply Failure**" has the meaning to be set forth in the Supply Agreement.

1.159 "**Term**" has the meaning provided in Section 13.1.

1.160 "**Terminated Territory**" means any country or jurisdiction in the Jazz Territory for which this Agreement is terminated by Jazz pursuant to Section 13.2 or by PharmaMar or Jazz pursuant to Section 13.3 or all of the countries or jurisdictions in the Jazz Territory at the time of termination if this Agreement is terminated in its entirety.

1.161 "**Territory**" means (a) the Jazz Territory in the case of Jazz and (b) the PharmaMar Territory in the case of PharmaMar.

1.162 "**Third Party**" means an Entity other than Jazz or PharmaMar or an Affiliate of Jazz or PharmaMar.

1.163 "**Third Party Partner**" means a Third Party to whom PharmaMar, pursuant to a written or other legally binding agreement, grants any right to Develop and/or Commercialize the Licensed API or the Licensed Product in any jurisdiction in the PharmaMar Territory in each case, for so long as such agreement is in effect. For clarity, Third Party Partner shall exclude any Third Party subcontracted by PharmaMar (or its Affiliates or Third Party Partners) solely to perform any Development, manufacturing or Commercialization activities on PharmaMar's (or its Affiliate's or Third Party Partner's) behalf such as CROs, CMOs, CSOs and logistic subcontractors. As of the Restatement Effective Date, existing Third Party Partners are set forth on **Exhibit C.**

1.164 "**Title 11**" has the meaning provided in Section 16.3(a).

1.165 "**Trademark**" means any trademark, trade name, service mark, service name, brand, domain name, trade dress, logo, slogan or other indicia of origin or ownership in, including registrations and applications therefor as well as any unregistered rights therein and the goodwill and activities associated with each of the foregoing.

1.166 [***] has the meaning provided in Section 10.8.

1.167 "**U.S.**" means the United States of America, including its possessions and territories.

1.168 "**U.S. Annual Sales Forecast Plan**" or "**U.S. ASFP"** has the meaning provided in Section7.8(a)(i).

1.169 "**U.S. SCLC Post-Approval Commitment Studies Development Plan**" has the meaning provided in Section 4.1(b)(i).

1.170 "**U.S. SCLC Post-Approval Commitment Studies**" has the meaning provided in Section 4.1(b)(i).

1.171 "**Valid Claim**" means a claim contained in (a) an issued and unexpired patent which has not been held unenforceable, unpatentable or invalid by a decision of a court or other governmental agency of competent jurisdiction, unappealable or unappealed within the time allowed for appeal, and which has not been admitted to be invalid or unenforceable through abandonment, reissue, disclaimer or otherwise or (b) a patent application that has not been irretrievably cancelled, withdrawn or abandoned and that has been pending for less than [***]. If a claim of a [***], then it shall [***].

1.172 "**Working Group**" has the meaning provided in Section 3.5.

2. License Grants

2.1 Jazz License.

(a) Exclusive License Grant to Jazz. Subject to the terms and conditions of this Agreement, PharmaMar hereby grants to Jazz an exclusive (even as to PharmaMar, except as expressly set forth in subsection (vii) below and in Section 2.3), royalty□ bearing license, with the right to sublicense through multiple tiers in accordance with Section 2.1(c), under the PharmaMar Technology (i) to Commercialize Licensed Products under the Product Trademarks in the Licensed Indications in the Jazz Territory; (ii) to conduct Medical Affairs activities in the Jazz Territory; (iii) to Develop Licensed Products in Jazz Territory; (iv) to conduct research and preclinical development activities in the Jazz Territory; (v) to conduct SCLC Post-Approval Commitment Studies and Joint Additional Indications Pivotal Trials in the PharmaMar Territory; (vi) to use and import the Licensed API or Bulk Vials of Licensed Products supplied by PharmaMar to manufacture, have manufactured, use and import Licensed Products for use in accordance with this Section 2.1 in the Jazz Territory and the PharmaMar Territory; and (vii) solely in the event of a Supply Failure, a co-exclusive (solely with PharmaMar and its Affiliates and authorized Third Party manufacturers) license to, within and without the Jazz Territory, to manufacture and have manufactured Licensed API, Bulk Vials and Licensed Products and to import Licensed API, Bulk Vials and Licensed Products into the Jazz Territory, but only for use otherwise in accordance with this Section 2.1. PharmaMar's retained co-exclusive right shall include the right to, within and without the Jazz Territory, manufacture, have manufactured, import and export Licensed API, Bulk Vials and Licensed Products for any use in the PharmaMar Territory otherwise authorized by this Agreement.

(b) Non-Exclusive License Grant to Jazz. In addition to Section 2.1(a), and subject to the terms and conditions of this Agreement, PharmaMar hereby grants to Jazz a non-exclusive, royalty□ bearing license, with the right to sublicense through multiple tiers in accordance with Section 2.1(c), under the PharmaMar Technology (i) to conduct research and preclinical development activities in the PharmaMar Territory; (ii) to conduct Jazz Additional Indication Clinical Trials [***]; and (iii) to conduct Joint Additional Indication Pivotal Trials in the PharmaMar Territory (the licenses in Section 2.1(a) and Section 2.1(b) collectively, the "**Jazz License**").

(c) Sublicensing. Jazz shall have the right to grant sublicenses through multiple tiers, under any or all of the rights granted in the Jazz License (i) to its Affiliates and to Third Party contractors or service providers (including contract manufacturing organizations) [***] and (ii) to Third Parties that are not contractors or service providers [***]. Any sublicense granted by Jazz under the Jazz License shall be in writing and shall be consistent with the relevant terms and conditions of this Agreement. [***].

2.2 PharmaMar License.

(a) Exclusive License Grant to PharmaMar. Subject to the terms and conditions of this Agreement, Jazz hereby grants to PharmaMar an exclusive (even as to Jazz),

royalty-free license, with the right to sublicense through multiple tiers in accordance with Section 2.2(c), under the Jazz Technology (i) to commercialize Licensed Products in the PharmaMar Territory; (ii) to conduct Medical Affairs activities in PharmaMar Territory; (iii) to develop Licensed Products in the PharmaMar Territory; and (iv) to conduct research and preclinical development activities in the PharmaMar Territory.

(b) Non-exclusive License Grant to PharmaMar. Jazz hereby grants to PharmaMar a non-exclusive, royalty-free license, with the right to sublicense through multiple tiers in accordance with Section 2.2(c), under Jazz Technology, (i) to conduct Atlantis Trial and SCLC Post-Approval Commitment Studies in the Jazz Territory; (ii) to conduct PharmaMar Additional Indication Clinical Trials in the Jazz Territory; (iii) to conduct research and preclinical development activities in the Jazz Territory; and (iv) to manufacture, have manufactured, use and import Licensed API (solely in the event of a Supply Failure) and Licensed Products for use in accordance with the rights granted in Section 2.2(a) and Section 2.2(b)(i) – (iii) in the Jazz Territory and in the PharmaMar Territory (the licenses in Section 2.2(a) and Section 2.2(b) collectively, the "**PharmaMar License**").

(c) Sublicensing. Subject to Section 2.8, PharmaMar shall have the right to grant sublicenses through multiple tiers, under any or all of the rights granted in the PharmaMar License [***] to Affiliates, Third Party Partners and Third Party contractors or services providers (including contract manufacturing organizations), *provided* that sublicenses under Jazz Technology other than [***]. Any sublicense granted by PharmaMar under the PharmaMar License shall be in writing and shall be consistent with the relevant terms and conditions of this Agreement. [***] PharmaMar shall keep Jazz reasonably informed regarding any Third Party Partner's use of any sublicensed Jazz Technology that it otherwise becomes aware of in the ordinary course, it being understood that PharmaMar shall have no independent duty of inquiry with respect to such uses.

2.3 Reservation of Rights.

(a) Notwithstanding the exclusivity of the Jazz License, PharmaMar retains for itself (and/or, solely with respect to subsection (i) and (ii), its Affiliates and Third Party Partner(s)), (i) the exclusive right under the PharmaMar Technology to manufacture and have manufactured the Licensed API in Jazz Territory and in PharmaMar Territory (subject to Jazz's right to manufacture and have manufactured the Licensed API in the Jazz Territory and in the PharmaMar Territory in the event of a Supply Failure); (ii) the non-exclusive right under PharmaMar Technology to manufacture and have manufacture the Licensed Product in the Jazz Territory and in PharmaMar Territory for the sole purposes of (x) conducting development activities (including Clinical Trials, research and preclinical development) for Licensed Products in the PharmaMar Territory and those Development activities PharmaMar is entitled to conduct in the Jazz Territory in accordance with Section 4.1, 4.2 or 4.3, (subject to Section 3.4(b) if applicable), (y) conducting its Commercialization activities for Licensed Products in the PharmaMar Territory and (z) selling Licensed API or Licensed Products, as applicable, to Jazz in accordance with the terms of the Supply Agreement; and (iii) the right under the PharmaMar Technology to (A) complete the Atlantis Trial in accordance with Section 4.1(a) and (B) conduct

the development activities (including clinical trials, research and preclinical development) for Licensed Products that PharmaMar is entitled to conduct in the Jazz Territory in accordance with Section 4.1, 4.2 or 4.3 (subject to Section 3.4(b) if applicable).

(b) Notwithstanding the exclusivity of the PharmaMar License, Jazz retains for itself (and/or its Affiliates and Sublicensees), (i) the right under the Jazz Technology to manufacture and have manufacture Licensed API (in this case solely in the event of a Supply Failure) and Licensed Product in the Jazz Territory and in PharmaMar Territory for the sole purposes of (x) conducting development activities (including Clinical Trials, research and preclinical development) for Licensed Products in the Jazz Territory and those Development activities Jazz is entitled to conduct in the PharmaMar Territory in accordance with Section 4.2 or 4.3, (subject to Section 3.4(b) if applicable) and (y) conducting its Commercialization activities for Licensed Products in the Jazz Territory, (ii) the right under the PharmaMar Technology to conduct the development activities (including clinical trials, research and preclinical development) for Licensed Products that Jazz is entitled to conduct in the PharmaMar Territory in accordance with Section 4.2 or 4.3, (subject to Section 3.4(b) if applicable), and (iii) the right under the Jazz Technology to conduct research and preclinical development activities in the PharmaMar Territory.

(c) PharmaMar reserves to itself (and/or its Third Party Partner(s)), all other rights not expressly granted to Jazz pursuant to this Agreement, including: (i) the right to conduct development activities of the Licensed API and Licensed Product in the PharmaMar Territory, (subject to Section 3.4(b) if applicable), (ii) the right to Commercialize Licensed Products in the PharmaMar Territory and (iii) the right to conduct Medical Affairs activities in the PharmaMar Territory. Jazz reserves to itself (and/or its Affiliates, Sublicensees and licensees), all other rights in the Jazz Technology not expressly granted to PharmaMar pursuant to this Agreement.

2.4 Negative Covenants.

(a) By PharmaMar. PharmaMar hereby covenants that until the [***], neither it nor its Affiliates will, directly or indirectly (including with or through any Third Party licenses): [***], *provided, that* the foregoing covenants [***] shall (x) not prohibit PharmaMar from fulfilling its obligations to Jazz under the Agreement or from filing an NDA application for the Licensed Product for the SCLC Initial Indication and (y) not apply to [***]. For clarity, [***].

(b) By Jazz. Jazz hereby covenants that until the [***], neither it nor its Affiliates will, directly or indirectly (including with or through Third Party licensees): [***], *provided, that* the foregoing covenants [***] shall (A) not prohibit Jazz from Developing, manufacturing or Commercializing Licensed Products pursuant to the Jazz License or fulfilling its obligations to PharmaMar under this Agreement and (B) not apply to [***]. For clarity, [***].

(c) Exceptions for Mergers and Acquisitions. Without limiting Section 7.10, in the event that a Third Party becomes an Affiliate of a Party after the Effective Date through merger, acquisition, consolidation or other similar transaction, and, as of the closing date

of such transaction, such Third Party is engaged in the research, development or commercialization of a product that, if further developed, manufactured or commercialized by such Party, would cause such Party to be in breach of its exclusivity obligations set forth in Section 2.4(a) or Section 2.4(b), as applicable (a "**Competing Program**"), then:

(1) if such transaction results in a Change of Control of a Party, then such new Affiliate [***]; *provided, that* such new Affiliate [***]; and

(2) if such transaction does not result in a Change of Control of a Party, then such Party and its new Affiliate will [***] from the closing date of such transaction to wind down or complete the Divestiture of such Competing Program, and [***]; *provided, that* [***]. "**Divestiture**" means the [***].

2.5 No Implied Licenses. Except as explicitly set forth in this Agreement, neither Party shall be deemed by estoppel or implication to have granted the other Party any license or other right to any Patent Rights or other intellectual property of such Party. ALL RIGHTS WITH RESPECT TO TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHTS THAT ARE NOT SPECIFICALLY GRANTED HEREIN ARE RESERVED TO THE OWNER OF SUCH TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHTS.

2.6 Technology Transfer. Promptly after Jazz´s request, but in any event within [***], PharmaMar shall disclose to Jazz all existing PharmaMar Know-How which is [***]. Thereafter, on an ongoing basis, PharmaMar shall also disclose to Jazz all additional PharmaMar Know-How generated after the Effective Date [***]. For clarity, [***], PharmaMar shall [***]. Without limiting the generality of the foregoing, PharmaMar shall provide to Jazz true and complete copies of all written, graphic or electronic embodiments of Licensed Product Data within the PharmaMar Know-How. The PharmaMar Know-How shall be transferred to Jazz in a format to be agreed upon by the Parties, such agreement not to be unreasonably withheld and facilitated, where useful, by face to face technical exchange meetings or meetings at PharmaMar's contract manufacturing sites. With respect to any of the foregoing that is in a language other than English, PharmaMar shall also provide Jazz with English translations thereof.

2.7 [***]. Jazz acknowledges and agrees that [***] – even if supported in any manner by PharmaMar, its Affiliates or its Third Party Partners - shall [***]. In addition, Jazz acknowledges and agrees that PharmaMar shall [***]. For clarity, nothing in this Agreement shall prevent PharmaMar (and its Affiliates and Third Party Partners) to [***] and Jazz agrees that if such occurs it shall not, by itself, be deemed a [***]. For further clarity, PharmaMar shall not have the right to [***]. In addition, Jazz shall not have the right [***].

2.8 Third Party Partner Licenses in [***].

(a) The Parties agree that notwithstanding any other provisions of this Agreement, within [***], Jazz shall, as set forth below, [***]. Therefore PharmaMar agrees that with respect to [***], PharmaMar shall not [***]. For clarity, PharmaMar shall be entitled to disclose [***] any Licensed Product Data obtained from Clinical Trials conducted by Jazz, and

[***] shall be entitled to use such Licensed Product Data in its Territory as may be reasonable necessary or useful for the development, manufacturing or commercialization of the Licensed API and Licensed Product in [***], including to support the filings and prosecuting of Regulatory Filings and obtaining and maintaining Regulatory Approvals in [***]. Furthermore, PharmaMar shall be entitled to provide [***] with (a) sufficient rights of reference and use regarding any Licensed Product Data, and Regulatory Filings, Regulatory Approvals and material communications in Jazz Territory to the extent such rights are necessary for [***] to exercise its rights and obligations under its existing agreement with PharmaMar and (b) true and complete copies of any Regulatory Filings, Regulatory Approvals and material communications with Regulatory Authorities in Jazz Territory with respect to the Licensed Product.

(b) In addition, and with regard to [***], PharmaMar shall not [***], in each case, to [***]. Without limiting the provisions of Section 2.8(a), the foregoing obligations under this Section 2.8(b) shall also apply to [***], except to the extent PharmaMar has [***].

(c) If PharmaMar discloses or grants any rights to [***] with respect to any Jazz Technology, then at Jazz's request and PharmaMar's expense, PharmaMar shall take reasonable action to prevent or limit the possibility of such disclosure or grant from or of having an adverse effect on Jazz's rights under this Agreement or with respect to such Jazz Technology.

(d) For clarity, Jazz acknowledges and agrees that [***].

2.9 Right of Negotiation. In the event that development, manufacturing or Commercialization of Licensed Products by [***] (or its Affiliates or [***]), misappropriates any Know-how and/or infringe any Patents Rights that are Controlled by [***] but are not included in the [***], then at [***] request, the Parties will negotiate in good faith regarding the terms for [***] to grant a non-exclusive, royalty-bearing, sublicensable license to [***] under such Know-How or Patent Right for the development, manufacture and commercialization of Licensed API and Licensed Products [***] is entitled to conduct under this Agreement; upon reaching agreement regarding such terms, the Parties shall either enter into a separate license agreement or amend this Agreement to reflect such terms.

3. Governance

3.1 Joint Development Committee

(a) Formation and Role. The Parties have established a Joint Development Committee (the "**JDC**") to coordinate, oversee, review and discuss the Parties' activities with respect to the Development and registration of Licensed Products in the Licensed Indication in the Jazz Territory and the PharmaMar Territory. For that purpose and to the extent reasonably necessary, the JDC will:

(i) discuss and approve any amendments to the Atlantis Development Plan;

(ii) prepare, discuss and approve the U.S. SCLC Post-Approval Commitment Studies Development Plan (and the U.S. SCLC Post-Approval Commitment Studies Budget if applicable);

(iii) prepare, discuss and approve the Mutual Canada SCLC Post-Approval Commitment Studies Development Plan (and the Mutual Canada SCLC Post-Approval Commitment Studies Budget if applicable);

(iv) prepare, discuss and approve the Jazz Canada SCLC Post-Approval Commitment Studies Development Plan and the Jazz Canada SCLC Post-Approval Commitment Studies Budget;

(v) prepare, discuss and approve the Proposed Additional Indication Pivotal Trial Development Plan and Proposed Additional Indication Pivotal Trial Budget;

(vi) review and approve the protocols for any Proposed Additional Indication Pivotal Trial of Licensed Product to be performed by Jazz and/or PharmaMar in the Jazz Territory or the PharmaMar Territory;

(vii) prepare, discuss and approve changes to any Joint Additional Indication Pivotal Trial Development Plan or Joint Additional Indication Pivotal Trial Development Budget;

(viii) prepare, discuss and approve changes to Additional Indication Pivotal Trial Development Plan for an Additional Indication Pivotal Trial that is not a Joint Additional Indication Pivotal Trial;

(ix) [***], share information about and discuss such PharmaMar Additional Indication Clinical Trial;

(x) [***], share information about and discuss such Jazz Additional Indication Clinical Trial that Jazz intends to conduct;

(xi) review, discuss and approve Jazz's conduct of a Jazz Additional Indication Clinical Trial in [***];

(xii) at each JDC meeting, review and discuss material research and preclinical development activities by either Party or their respective Affiliates with respect to the Licensed API and Licensed Product in the Jazz Territory and the PharmaMar Territory;

(xiii) discuss about the regulatory strategy for the Licensed Product in Jazz Territory and in the EMA;

(xiv) serve as the principal means by which: (i) Jazz keeps PharmaMar reasonably informed regarding Jazz's Development and registration plans, efforts and results with respect to Licensed Products, and (ii) PharmaMar keeps Jazz reasonably informed regarding (A) PharmaMar's performance of its obligations under Section 4.1 of this Agreement and

(B) PharmaMar's development and registration plans, efforts and results with respect to Licensed Products;

(xv) share information regarding the global development and regulatory strategy with respect to Licensed Product in the Licensed Indications;

(xvi) establish such Working Groups as it deems necessary to achieve the objectives and intent of this Agreement;

(xvii) perform such other duties as are specifically assigned to the JDC in this Agreement or the Supply Agreement; and

(xviii) determine appropriate wind-down procedures for any Expanded Access after the first NDA Approval for the Licensed Product;

Each Party shall be responsible for ensuring that, at all times, its representatives on the JDC act reasonably and in good faith in carrying out their respective responsibilities hereunder.

(b) Members. Each Party has appointed [***] to the JDC, each of whom is an officer or employee of the applicable Party having sufficient seniority within such Party to make decisions arising within the scope of the JDC's responsibilities. The JDC may change its size from time to time by mutual consent of its members, and each Party may replace its representatives at any time upon written notice to the other Party. Each Party has appointed one of its representatives to the JDC to co□ chair the meetings of the JDC (each, a "**Co□ Chair**"). The role of the Co-Chairs shall be to coordinate and prepare the agenda (which agenda shall include all matters requested by a JDC representative from either Party), convene and preside at the meetings of the JDC ensuring the orderly conduct of the JDC meetings and to ensure the preparation of meeting minutes, but the Co-Chairs shall have no additional powers or rights beyond those held by other JDC representatives.

(c) Meetings. The JDC shall meet as deemed necessary by the JDC members, but at least [***] for so long as either Party or their Affiliates (or any Third Party Partner) is conducting clinical development of any Licensed Product. JDC meetings may be conducted in person, by teleconference or videoconference at times and places to be determined by the JDC members. Unless otherwise agreed by the Parties, all in-person meetings of the JDC shall be held on an alternating basis between PharmaMar and Jazz facilities. A reasonable number of additional representatives of a Party may attend meetings of the JDC in a non-voting capacity. Each Party shall bear its own expenses of participating in meetings of the JDC.

(d) Minutes. Each Party, on an alternative basis, shall be responsible for preparing definitive minutes of each JDC meeting. The Party in charge of the minutes shall circulate a draft of the minutes of each meeting to all members of the JDC for comments within [***] after such meeting. Such minutes shall document all actions and decisions approved by the JDC at such meeting, including the approval of the Development Plan or any amendment thereto, which shall be attached to the minutes as an exhibit. The Parties shall promptly discuss any

comments on such minutes and finalize the minutes no later than the date of the next JDC meeting.

3.2 Joint Commercialization Committee.

(a) Formation and Role. Within [***] after PharmaMar's exercise of its Co-Promotion Option, if any, the Parties shall establish a Joint Commercialization Committee (the "**JCC**") to coordinate, oversee, review and discuss the Parties' activities with respect to the co-promotion of Licensed Products in the Licensed Indication in the Jazz U.S. Territory. For that purpose and to the extent reasonably necessary, the JCC will:

(i) prepare, discuss and approve a plan for the Commercialization of Licensed Products in the Licensed Indication in the Jazz U.S. Territory (the "**Co-Promotion Plan**");

(ii) coordinate the Party's performance of the Co-Promotion Plan;

(iii) serve as the principal means by which each Party keeps the other Party reasonably informed regarding such Party's efforts and results with respect to marketing and promotion of Licensed Products in the Jazz U.S. Territory pursuant to the Co-Promotion Plan; and

(iv) perform such other duties as are specifically assigned to the JCC in this Agreement or the Co-Promotion Agreement.

Each Party shall be responsible for ensuring that, at all times, its representatives on the JCC act reasonably and in good faith in carrying out their respective responsibilities hereunder.

(b) Members. Upon formation of the JCC, each Party shall initially appoint up to [***] to the JCC, each of whom will be an officer or employee of the applicable Party having sufficient seniority within such Party to make decisions arising within the scope of the JCC's responsibilities. The JCC may change its size from time to time by mutual consent of its members, and each Party may replace its representatives at any time upon written notice to the other Party. Each Party shall appoint one of its representatives to the JCC to co□ chair the meetings of the JCC (each, a "**Co□ Chair**"). The role of the Co-Chairs shall be to coordinate and prepare the agenda (which agenda shall include all matters requested by a JCC representative from either Party), convene and preside at the meetings of the JCC ensuring the orderly conduct of the JCC meetings and to ensure the preparation of meeting minutes, but the Co-Chairs shall have no additional powers or rights beyond those held by other JCC representatives.

(c) Meetings. The JCC shall meet as deemed necessary by the JCC members, but at least [***] for so long as either Party is co-promoting Licensed Product in the Jazz U.S. Territory. JCC meetings may be conducted in person by teleconference or videoconference at times and places to be determined by the JCC members. Unless otherwise agreed by the Parties, all in-person meetings of the JCC shall be held on an alternating basis between PharmaMar and Jazz facilities. A reasonable number of additional representatives of a Party may attend meetings

of the JCC in a non-voting capacity. Each Party shall bear its own expenses of participating in meetings of the JCC.

(d) Minutes. Each Party, on an alternative basis, shall be responsible for preparing definitive minutes of each JCC meeting. The Party in charge of the minutes shall circulate a draft of the minutes of each meeting to all members of the JCC for comments within [***] after such meeting. Such minutes shall document all actions and decisions approved by the JCC at such meeting, including the approval of the Co-Promotion Plan or any amendment thereto, which shall be attached to the minutes as an exhibit. The Parties shall promptly discuss any comments on such minutes and finalize the minutes no later than the date of the next JCC meeting.

3.3 Limitation of Committee Authority. Each Committee shall only have the powers expressly assigned to it in this Agreement, and such powers shall be subject to the terms and conditions of this Agreement. Without limiting the foregoing, no Committee will have the power to (a) modify or amend the terms and conditions of this Agreement; (b) waive either Party's compliance with the terms and conditions of under this Agreement; or (c) determine any such issue in a manner that would conflict with the express terms and conditions of this Agreement.

3.4 Decision-Making and Dispute Resolution.

(a) Decision-Making. Each Committee will attempt to reach decisions by consensus, with the Jazz representatives having collectively one vote and the PharmaMar representatives having collectively one vote. Each Committee's decision-making authority shall be limited to those matters expressly delegated to it in this Agreement. If, after reasonable discussion and good faith consideration of each Party's view on a particular matter before a Committee, the representatives of the Parties cannot reach an agreement as to such matter within [***] after such matter was brought to such Committee for resolution (each, a "**Committee Dispute**"), such disagreement shall be escalated to the Executive Officers for resolution within [***], who shall confer in good faith on the resolution of the issue. Any final decision mutually agreed to by such Executive Officers shall be conclusive and binding on the Parties.

(b) Final Decisions. If the Executive Officers are not able to agree on the resolution of any such Committee Dispute within [***] after such issue was first referred to them, then the following shall apply:

(i) Jazz shall have final decision-making authority for all matters relating to the Commercialization of Licensed Products in the Licensed Indication in the Jazz Territory;

(ii) Jazz shall have final decision-making authority for all matters relating to its, its Affiliates' and Sublicensees' conduct of preclinical and research development activities in the Jazz Territory and/or the PharmaMar Territory;

(iii) Jazz shall have final decision-making authority for all matters relating to the Development of Licensed API or Licensed Product conducted in the Jazz Territory, including the conduct of the Jazz Canada SCLC Post-Approval Commitment Studies and the applicable Jazz Canada SCLC Post-Approval Commitment Studies Development Plan and Jazz Canada SCLC Post-Approval Commitment Studies Budget and any amendments thereto (as long as such activities and such plan are consistent with and do not exceed Health Canada requirements) (except for the conduct of the Atlantis Trial, PharmaMar Additional Indication Clinical Trials, Additional Indication Pivotal Trials, Joint Additional Indication Pivotal Trials and preclinical and research development activities conducted by PharmaMar, its Affiliates and Third Party Partners), and for all matters relating to the conduct of Jazz Additional Indication Clinical Trials in the PharmaMar Territory *provided* that PharmaMar shall have final decision making authority with respect to whether to permit or not the conduct of a Jazz Additional Indication Clinical Trial outside [***] in PharmaMar Territory;

(iv) To the extent Jazz performs any SCLC Post-Approval Commitment Studies pursuant to Section 4.1(b), Jazz shall have final decision-making authority for all matters relating to the conduct of such SCLC Post-Approval Commitment Studies in the Jazz Territory and the PharmaMar Territory, including with respect to the applicable SCLC Post-Approval Commitment Studies Plan and SCLC Post-Approval Commitment Studies Budget and any amendments thereto (as long as such activities and such plan are consistent with and do not exceed FDA or Health Canada requirements, as applicable);

(v) PharmaMar shall have final decision-making authority for all matters relating to the development of Licensed API or Licensed Product conducted in the PharmaMar Territory (except for the conduct of Joint Additional Indication Approval Studies, Jazz Additional Indication Clinical Trials in [***] and preclinical and research development activities conducted by Jazz, its Affiliates and Sublicensees) and for all matters relating to the conduct of PharmaMar Additional Indication Clinical Trials in the Jazz Territory;

(vi) PharmaMar shall have final decision-making authority for all matters relating to the conduct of the Atlantis Trial, including any amendment to the Atlantis Development Plan;

(vii) PharmaMar shall have final decision-making authority for all matters relating to the conduct of Additional Indication Pivotal Trials (and for clarity, excluding the conduct of Joint Additional Indication Pivotal Trials);

(viii) Except to the extent Jazz performs SCLC Post-Approval Commitment Studies in accordance with Section 4.1(b), PharmaMar shall have final decision-making authority for all matters relating to the conduct of the U.S. SCLC Post-Approval Commitment Studies and Mutual Canada SCLC Post-Approval Commitment Studies in the Jazz Territory and the PharmaMar Territory;

(ix) PharmaMar shall have final decision-making authority for all matters relating to its, its Affiliates' and Third Party Partners' conduct of preclinical and research development activities in the Jazz Territory and/or the PharmaMar Territory;

provided, that, if a Party reasonably believes, based on regulatory and scientific evidence typically relied upon by the pharmaceutical industry, that any Development activity proposed by the other Party (whether or not such proposed activity is subject to the JDC's final decision making authority) would [***] (an "**Adverse Safety Impact**"), such Party shall have the right to either (A) prevent the other Party from exercising its final decision-making authority set forth in Section 3.4(b)(ii), Section 3.4(b)(iv), Section 3.4(b)(vi) or Section 3.4(b)(vii), as applicable, to approve the conduct of any such Development activity or (B) impose additional conditions on the conduct of such Development activity that are [***], which right shall not be subject to further review or approval by the JDC. In the event any Party disputes the other Party´s determination of any Development activity having potentially an Adverse Safety Impact, the Parties shall submit the proposed Development activity to an independent Third Party or committee (such as an investigator review board in the case of an Adverse Safety Impact relating to [***]) to be appointed by both Parties jointly for determination of the existence or not of a potential Adverse Safety Impact. Determination by such independent Third Party shall be binding to the Parties.

Nothing in this Section 3.4(b) shall relieve a Party who has or exercises any 'final decision-making authority' set forth herein of any contractual obligation to the other Party, including, without limitation any obligation to exercise Commercially Reasonable Efforts.

(c) Neither Party Final Decisions. Neither Party shall have final decision-making authority for any matter relating to the conduct of a Joint Additional Indication Pivotal Trial, including any Additional Indication Pivotal Trial Development Plan or Additional Indication Pivotal Trial Budget for such Clinical Trial and any such decisions shall require the mutual consent of the Parties. In the absence of mutual agreement of the Parties with respect to any such matter, the status quo in the then-current Additional Indication Pivotal Trial Development Plan or Additional Indication Pivotal Trial Budget shall prevail.

(d) Development and Commercialization Meetings. During the Term, unless the Parties mutually agree otherwise, the Parties will have meetings at least once each Calendar Year, to discuss any other issue the Parties may consider regarding Development and Commercialization of the Licensed Products in each Party's Territory, including sharing information regarding Jazz´s Annual Commercialization Plan and information regarding commercialization and marketing strategies of each Party in its Territory. Such meetings may be conducted in person at times and places to be determined by the Parties. Alternatively, the Parties may meet by means of teleconference, videoconference or other similar communications equipment. Each Party shall bear its own expenses of participating in meetings.

3.5 Working Groups. From time to time, the JDC or the JCC may establish and delegate duties to other committees, sub-committees or directed teams (each, a "**Working Group**") on an "as-needed" basis to discuss best practices, oversee particular projects or activities, such as regulatory or clinical activities, which delegation shall be reflected in the minutes of the meetings of the JDC. Each such Working Group shall be constituted and shall operate as the JDC or JCC, as applicable, determines and shall report to the JDC or JCC, as applicable. Each Working Group and its activities shall be subject to the oversight, review and

approval of the JDC or JCC, as applicable. In no event shall the authority of the Working Group exceed that specified for the JDC in Section 3.1(a) or the JCC in Section 3.2(a), as applicable. Any disagreement between the designees of PharmaMar and of Jazz on a Working Group shall be referred to the JDC or JCC, as applicable, for resolution.

3.6 Alliance Manager. Each Party has designated one or more employees (each an "**Alliance Manager**") to facilitate communications between the Parties or the JDC (including coordinating the exchange of Information of each Party as required under this Agreement) and to act as the primary liaison between the Parties or the JDC with respect to such other matters as the Parties may mutually agree in order to maximize the efficiency of the exchange of Information, it being understood that the exchange of Information will require the cooperation and efforts of personnel from each Party in addition to the Alliance Manager. Either Party may replace its respective Alliance Managers at any time with prior written notice to the other Party.

4. Development

4.1 PharmaMar Responsibility. Without limiting the generality of Section 4.4, PharmaMar shall have the obligations set forth in this Section 4.1.

(a) Atlantis Trial.

(i) Responsibility. PharmaMar shall have the sole responsibility for, and shall conduct and complete, the Atlantis Trial at its sole expense in accordance with the current referenced protocols and development plans attached hereto as **Exhibit D** (the "**Atlantis Development Plan**").

(ii) Material Changes; Suspension or Termination. PharmaMar shall promptly propose to the JDC any material changes it wishes to make to the Atlantis Development Plan, and after discussion and approval by the JDC, such plan shall be amended to address them unless Jazz believes in good faith that such amendment is likely to have an Adverse Safety Impact, in which case the terms of the proviso in Section 3.4(b) shall apply. PharmaMar may suspend or terminate the Atlantis Trial after discussion at the JDC, but without obtaining approval from the JDC, if there is [***] (a "**Safety Reason**") or such suspension or termination is required by a Regulatory Authority or investigational review board. If Jazz disputes the existence of a Safety Reason, the Parties shall submit the dispute to an independent Third Party or committee (such as an investigator review board) to be appointed by both Parties jointly for determination of the existence or not of such Safety Reason. Determination by such independent Third Party shall be binding to the Parties.

(b) SCLC Post-Approval Commitment Studies.

(i) U.S. SCLC Post-Approval Commitment Studies. PharmaMar shall be solely responsible for conducting, on Jazz's behalf and at PharmaMar's sole expense, any post-approval commitment studies that are required by the FDA with respect to any Regulatory Approval by the FDA of a Licensed Product for the SCLC Initial Indication in the Jazz U.S. Territory, including any drug-drug interaction studies or hepatic impairment studies

required by the FDA (collectively, "**U.S. SCLC Post-Approval Commitment Studies**") in accordance with a development plan which shall include a clinical trial design, protocol and timing that satisfies the FDA's requirements to be reviewed, discussed and approved by the JDC. Upon approval by the JDC, such plan shall be deemed the "**U.S. SCLC Post-Approval Commitment Studies Development Plan**". JDC approval shall not be required with regard to design, protocol and timeline of those U.S. SCLC Post-Approval Commitment Studies whose protocol has been submitted to FDA prior to the Effective Date. The JDC shall incorporate into such protocols any comments of Jazz to the extent such comments are consistent with FDA requirements. Jazz shall conduct and be responsible, at its expense, for regulatory communications with the FDA regarding the U.S. SCLC Post-Approval Commitment Studies once Regulatory Approval by the FDA for Licensed Product in the SCLC Initial Indication has been transferred to Jazz pursuant to Section 5.

(ii) Mutual Canada SCLC Post-Approval Commitment Studies. PharmaMar shall be solely responsible for conducting, at its sole expense, any post-approval commitment studies that are required by Health Canada with respect to any Regulatory Approval by Health Canada of a Licensed Product for the SCLC Initial Indication in the Jazz Canada Territory, including any drug-drug interaction studies or hepatic impairment studies required by Health Canada, in each case, to the extent each such study is the same as those U.S. SCLC Post-Approval Commitment Studies required by the FDA or any other such post-approval commitment studies which have already been required by applicable Regulatory Authorities of the [***], if the Licensed Product is already approved in such territory(ies) at the time Health Canada requires such post-approval commitment studies (collectively, "**Mutual Canada SCLC Post-Approval Commitment Studies**") in accordance with a development plan which shall include a clinical trial design, protocol and timing that satisfies the Health Canada's requirements to be reviewed, discussed and approved by the JDC. Upon approval by the JDC, such plan shall be deemed the "**Mutual Canada SCLC Post-Approval Commitment Studies Development Plan**". PharmaMar shall promptly notify Jazz if any post-approval commitment study required by Health Canada with respect to any Regulatory Approval by Health Canada of a Licensed Product for the SCLC Initial Indication in the Jazz Canada Territory is not the same as those SCLC Post-Approval Commitment Studies required by the FDA or any other such post-approval commitment studies required by applicable Regulatory Authorities of the [***], if the Licensed Product is approved in such territory(ies) at the time Health Canada requires such post-approval commitment studies. Jazz shall conduct and be responsible, at its expense, for regulatory communications with Health Canada regarding the Mutual Canada SCLC Post-Approval Commitment Studies.

(iii) Jazz Canada SCLC Post-Approval Commitment Studies. Jazz shall be solely responsible for conducting, at its sole expense, any post-approval commitment studies that are required by Health Canada with respect to any Regulatory Approval by Health Canada of a Licensed Product for the SCLC Initial Indication in the Jazz Canada Territory that is not a Mutual Canada SCLC Post-Approval Commitment Study (collectively, "**Jazz Canada SCLC Post-Approval Commitment Studies**"). Jazz shall conduct and be responsible, at its expense, for regulatory communications with Health Canada regarding the Jazz Canada SCLC Post-Approval Commitment Studies. In such event, Jazz shall prepare a proposed development

plan and a proposed budget for such Jazz Canada SCLC Post-Approval Commitment Studies, including the number of FTEs to conduct such activities (each such development plan, a "**Jazz Canada SCLC Post-Approval Commitment Studies Development Plan**" and each such budget, a "**Jazz Canada SCLC Post-Approval Commitment Studies Budget**"), which shall each be reviewed, discussed and approved by the JDC. Development Costs incurred by Jazz from the performance of the Jazz Canada SCLC Post-Approval Commitment Studies shall be creditable up to [***] of the Jazz Canada SCLC Post-Approval Commitment Studies Budget for any such Study solely against those Regulatory Milestone Payment, Sale Milestone Payments and royalty payments referred to Jazz Canada Territory thereafter due and payable pursuant to Section 8.4, Section 8.6 and Section 8.7, as applicable, as set forth in Section 8.3(b). Any amendment to Jazz Canada SCLC Post-Approval Commitment Studies Development Plan or to Jazz Canada SCLC Post-Approval Commitment Studies Budget shall be reviewed, discussed and approved by the JDC, with such approval by PharmaMar's members of the JDC not to be unreasonably withheld (it being understood that an example of unreasonably withholding approval would be to not approve an amendment to the Jazz Canada SCLC Post-Approval Commitment Studies Budget if Jazz Canada SCLC Post-Approval Commitment Studies Development Plan is amended by JDC in a manner that implies a change, from the assumptions or the protocol which were taken into account at the time the initial Jazz Canada SCLC Post-Approval Commitment Studies Budget was approved, for the purposes of fulfilling any Health Canada requirement with regard to such Jazz Canada SCLC Post-Approval Commitment Studies).

(iv) Jazz Performance of U.S. SCLC Post-Approval Commitment Studies or **Mutual Canada SCLC Post-Approval Commitment Studies.** If PharmaMar is not [***], then Jazz shall have the right, exercisable upon written notice to PharmaMar, to conduct such SCLC Post-Approval Commitment Studies itself at PharmaMar's expense. In such event, Jazz shall prepare a proposed SCLC Post-Approval Commitment Studies Development Plan and a proposed budget for such U.S. SCLC Post-Approval Commitment Studies or Mutual Canada SCLC Post-Approval Commitment Studies, as applicable, including the number of FTEs to conduct such activities (each, an "**SCLC Post-Approval Commitment Studies Budget**"), which shall be reviewed, discussed and approved by the JDC. In such event, PharmaMar shall reimburse Jazz for one hundred percent (100%) of the Development Costs incurred in accordance with and up to [***] of the SCLC Post-Approval Commitment Studies Budget for any such study, as set forth in Section 8.3. Any amendment to SCLC Post-Approval Commitment Studies Budget shall be reviewed, discussed and approved by the JDC, with such approval by PharmaMar's members of the JDC not to be unreasonably withheld (it being understood that an example of unreasonably withholding approval would be to not approve an amendment to the SCLC Post-Approval Commitment Studies Budget if the SCLC Post-Approval Commitment Studies Development Plan is amended by JDC in a manner that implies a change, from the assumptions or the protocol which were taken into account at the time the initial SCLC Post-Approval Commitment Studies Budget was approved, for the purposes of fulfilling any FDA requirement with regard to such SCLC Post-Approval Commitment Studies).

(v) For clarity, notwithstanding Section 4.1(b)(ii) or Section 4.1(b)(iii), Mutual Canada SCLC Post-Approval Commitment Studies and Jazz Canada SCLC

Post-Approval Commitment Studies each exclude (A) any studies solely required to obtain Pricing Approval by Health Canada and (B) any Medical Affairs Studies, each of which may be performed by Jazz at its sole discretion and expense.

(c) No Additional Obligations. Except as set forth in this Section 4.1 with respect to the Atlantis Trial, the U.S. SCLC Post-Approval Commitment Studies and the Mutual Canada SCLC Post-Approval Commitment Studies, PharmaMar shall have no further obligation to conduct any pre-clinical or clinical Development activities with respect to any Licensed Products.

4.2 Additional Indication Pivotal Trial.

(a) Proposed Additional Indication Pivotal Trial. If PharmaMar wishes to conduct a Pivotal Trial for an Additional Indication that (i) is initiated [***] and (ii) such Pivotal Trial is sufficient to support the filing of an NDA with the FDA, as evidenced by an agreement with or statement from the FDA on a Special Protocol Assessment procedure or equivalent, or other guidance or minutes issued by the FDA (each, a "**Proposed Additional Indication Pivotal Trial**"), then PharmaMar shall present to Jazz's representatives at the JDC the proposed design of such Proposed Additional Indication Pivotal Trial, including the proposed protocol and budget for such study. The JDC shall discuss such Proposed Additional Indication Pivotal Trial at its next meeting, and PharmaMar shall provide, within [***] after such JDC meeting (or such longer period of time as agreed upon in writing by the Parties), any additional information reasonably requested by Jazz's JDC representatives prior to or during such JDC meeting.

(b) Additional Indication Pivotal Trial. If by the [***] day after the JDC meeting at which a particular Proposed Additional Indication Pivotal Trial is discussed (or such longer period of time as agreed upon in writing by the Parties) under to Section 4.5(a), Jazz has not notified PharmaMar that it believes that such Proposed Additional Indication Pivotal Trial is likely to have an Adverse Safety Impact, then such Proposed Additional Indication Pivotal Trial will be deemed an "**Additional Indication Pivotal Trial**" and the JDC shall review and approve a protocol for such Additional Indication Pivotal Trial and such approved protocol and the proposed budget for such Additional Indication Pivotal Trial shall be deemed an "**Additional Indication Pivotal Trial Development Plan**" and an "**Additional Indication Pivotal Trial Budget**", respectively.

(c) Pivotal Trial Costs. On an Additional Indication Pivotal Trial-by-Additional Indication Pivotal Trial basis, within [***] days of the JDC's approval of the applicable Additional Indication Pivotal Trial Development Plan and Additional Indication Pivotal Trial Budget, Jazz shall have the right to elect to either:

(i) have Jazz and PharmaMar share [***] all costs incurred to conduct such Additional Indication Pivotal Trial in accordance with Section 8.2 (any such Additional Indication Pivotal Trial, a "**Joint Additional Indication Pivotal Trial**" and the Additional Indication Pivotal Trial Development Plan and Additional Indication Pivotal Trial Budget therefor, a "**Joint Additional Indication Pivotal Trial Development Plan**" and "**Joint Additional Indication Pivotal Trial Budget"**, respectively); or

(ii) have PharmaMar pay [***] of all costs incurred to conduct such Additional Indication Pivotal Trial, in which case Sections 5.3(c)(ii) and 8.5 shall apply.

(d) Material Changes; Suspension or Termination.

(i) Each Party shall promptly inform the JDC of any material changes it wishes to make to a Joint Additional Indication Pivotal Trial and Joint Additional Indication Pivotal Trial Budget. All changes to any Joint Additional Indication Pivotal Trial Development Plan or Joint Additional Indication Pivotal Trial Budget and all suspensions or terminations of any Joint Additional Indication Pivotal Trial shall be by mutual agreement of the Parties' representatives to the JDC.

(ii) PharmaMar shall promptly inform the JDC of any material changes it wishes to make to an Additional Indication Pivotal Trial that is not a Joint Additional Indication Pivotal Trial and the JDC shall review, discuss and approve any amendment to the Additional Indication Pivotal Trial Development Plan in accordance with Section 3.4. PharmaMar may suspend or terminate an Additional Indication Pivotal Trial that is not a Joint Additional Indication Pivotal Trial after discussion at the JDC, but without obtaining approval from the JDC, if there is a Safety Reason or such suspension or termination is required by a Regulatory Authority or investigational review board.

(iii) Notwithstanding anything to the contrary in Section 4.2(d)(i), after transfer of Regulatory Approval and the associated Regulatory Filings to Jazz pursuant to Section 5.1, as the holder of the IND in the Jazz Territory, Jazz may require PharmaMar to suspend or terminate an Additional Indication Pivotal Trial in the Jazz Territory after discussion at the JDC, but without obtaining approval from the JDC, if there is a Safety Reason or such suspension or termination is required by a Regulatory Authority or investigational review board.

(iv) If any Party disputes the other Party´s alleged Safety Reason, the Parties shall submit the dispute to an independent Third Party or committee (such as an investigator review board) to be appointed by both Parties jointly for determination of the existence or not of such Safety Reason. Determination by such independent Third Party shall be binding to the Parties.

(e) PharmaMar Additional Indication Clinical Trial becomes a Pivotal Trial After Initiation. In the event any PharmaMar Additional Indication Clinical Trial becomes a Pivotal Trial after Initiation of such Clinical Trial, then such PharmaMar Additional Indication Clinical Trial shall thereafter be deemed an Additional Indication Pivotal Trial and PharmaMar shall provide prompt written notice thereof to Jazz. Such written notice shall include a copy of the protocol for such Clinical Trial. Within [***] days of such notification, PharmaMar shall provide to Jazz a complete accounting of all Pivotal Trial Costs (as such term is modified *mutatis mutandis* to apply to such Clinical Trial) incurred to date and a proposed plan and budget for all additional activities and anticipated costs for conducting the remainder, if any, of such Clinical Trial for review and approval by the JDC (such plan after such approval be deemed an Additional Indication Pivotal Trial Development Plan and such accounting, together with the proposed budget, shall after such approval be deemed an Additional Indication Pivotal

Trial Development Budget). Notwithstanding the timing set forth in Section 4.2(c), within [***] days of the JDC's approval of the Additional Indication Pivotal Trial Development Budget for any such Additional Indication Pivotal Trial pursuant to this Section 4.2(e), Jazz shall have the right to elect to either:

(i) [***] all Pivotal Trial Costs incurred to conduct such Additional Indication Pivotal Trial in accordance with Section 8.2 as set forth in Section 4.2(c)(i), in which case (1) PharmaMar shall include in the next Reconciliation Report pursuant to Section 8.2 [***] of all Pivotal Trial Costs incurred in connection with such Additional Indication Pivotal Trial as of such election, (2) such Additional Indication Pivotal Trial shall be deemed to be a Joint Additional Indication Pivotal Trial, (3) such Additional Indication Pivotal Trial Plan shall be deemed to be a Joint Additional Indication Pivotal Trial Plan and (4) such Additional Indication Pivotal Budget shall be deemed to be a Joint Additional Indication Pivotal Budget; or

(ii) have PharmaMar pay [***] of all costs incurred to conduct such Additional Indication Pivotal Trial as set forth in Section 4.2(c)(ii).

4.3 Other Development Rights.

(a) Except with respect to the Atlantis Trial, the SCLC Post-Approval Commitment Studies and the Additional Indication Pivotal Trials addressed under Sections 4.1 and 4.2, each Party shall be entitled to conduct in its Territory any research and pre-clinical, clinical or other Development activities, including, without limitation, the conduct of Clinical Trials and Pivotal Trials with respect to Licensed API or Licensed Product for the purposes of obtaining or expanding Regulatory Approval of Licensed Product in its Territory at its sole responsibility and cost and without any prior approval by the JDC, but (i) with prior discussion by the JDC with respect to any Jazz Additional Indication Clinical Trial and PharmaMar Additional Indication Clinical Trial and (ii) with the JDC being informed of any other Clinical Trials.

(b) In addition, each Party shall be entitled to conduct any research and preclinical development activities in the other Party´s Territory at its sole discretion and expense and shall keep the other Party, through the JDC, regularly informed about such development activities provided however that no prior approval of those activities by the JDC would be required for its conduct.

(c) Jazz shall be entitled to conduct Clinical Trials (other than Medical Affairs Clinical Trials) in Additional Indications other than Additional Indication Pivotal Trials [***] ("**Jazz Additional Indication Clinical Trials**"), *provided* that prior to initiation of any Jazz Additional Indication Clinical Trials, Jazz will inform the JDC about such intended Jazz Additional Indication Clinical Trials for review and discussion by the JDC *provided* that, except as set forth in Section 3.4(b), Jazz shall have final decision making about Jazz Additional Indications Clinical Trials in [***]. Except as provided herein for research and preclinical Development activities in the PharmaMar Territory and for Jazz Additional Indication Clinical Trials [***], Jazz shall have no other right to conduct Development activities in the PharmaMar Territory. PharmaMar shall ensure that any Third Party Partner agreement entered into after the

Effective Date includes the right for Jazz and its Affiliates and Sublicensees to conduct Jazz Additional Indication Clinical Trials in such Third Party Partner's territory in a manner consistent with the terms of this Agreement, provided however that such rights may be subject to such Third Party Partner´s prior written consent on a Clinical Trial by Clinical Trial basis *provided* that such Third Party Partner's Clinical Trials in the Jazz Territory are subject to Jazz's prior written consent.

(d) PharmaMar shall be entitled to conduct Clinical Trials (other than Medical Affairs Clinical Trials) in Additional Indications other than Additional Indication Pivotal Trials in the Jazz Territory ("**PharmaMar Additional Indication Clinical Trials**") *provided* that prior to initiation of any PharmaMar Additional Indication Clinical Trials, PharmaMar will inform the JDC about such intended PharmaMar Additional Indication Clinical Trials for review and discussion by the JDC *provided* that, except as set forth in Section 3.4(b), PharmaMar shall have final decision making about PharmaMar Additional Indications Clinical Trials in the PharmaMar Territory. For clarity, PharmaMar Additional Indication Clinical Trials shall include any Pivotal Trial in an Additional Indication which is [***]. Except as provided herein for research and preclinical Development activities and for PharmaMar Additional Indication Clinical Trials in the Jazz Territory, PharmaMar shall have no other right to conduct Development activities in the Jazz Territory.

4.4 Performance Standards. Each Party shall conduct, or have conducted, all Licensed API and Licensed Product Development, manufacture and registration activities performed by it or on its behalf in good scientific manner and in compliance with all Applicable Laws and, as applicable, GLP, GCP and/or GMP.

4.5 Exchange of Data. On an ongoing basis during the Term, each Party shall disclose to the other Party all Licensed Product Data generated by such Party or its Affiliates (or in the case of PharmaMar, its Third Party Partners or in the case of Jazz, its Sublicensees). Each Party and its Affiliates shall have the right to use the Licensed Product Data disclosed by the other Party, for the purpose of obtaining and maintaining Regulatory Approval within its respective Territory of Licensed Products in the Licensed Indications. Subject to Section 2.8, PharmaMar shall have the right to sublicense [***] such right to use such Licensed Product Data to its Third Party Partners in the PharmaMar Territory if and only if such Third Party Partners are obligated to share all Licensed Product Data generated by them or on their behalf with Jazz for Jazz's and its Affiliates' use in the Jazz Territory at no cost to Jazz.

5. Regulatory

5.1 Transfer of Regulatory Filings. The Parties acknowledge that PharmaMar submitted to the FDA an NDA for a Licensed Product in the SCLC Initial Indication under the Subpart H regulations or their equivalent (the "**Initial SCLC NDA Filing**") and the FDA granted NDA Approval for the Licensed Product in the SCLC Initial Indication. PharmaMar transferred and assigned such Regulatory Approval for the Licensed Product in the SCLC Initial Indication to Jazz prior to the Restatement Effective Date. To the extent not already transferred and assigned to Jazz, promptly after the Restatement Effective Date or as otherwise agreed by the Parties in writing, PharmaMar shall, transfer and assign to Jazz all Regulatory Filings for a

Licensed Product in the Jazz Territory and shall transfer to Jazz all Licensed Product Data and PharmaMar Know-How not previously transferred to Jazz, except for the DMF, which shall be maintained by and in the name of PharmaMar. Cost of any such transfer shall be borne by both Parties equally. After transfer of the Regulatory Approval to Jazz pursuant to this Agreement on an NDA Approval that is not a Full Approval, Jazz shall use Commercially Reasonable Efforts to achieve the next Regulatory Milestone that is based on Full Approval.

5.2 Additional Transfer of Regulatory Data. Promptly after the Restatement Effective Date, PharmaMar will, to the extent not already provided to Jazz, provide completed clinical study reports (CSRs) and submission-ready analysis datasets to Jazz for any of the studies supporting the Regulatory Approval by the FDA or Health Canada for a Licensed Product in the SCLC Initial Indication (including the Atlantis Trial, the U.S. SCLC Post-Approval Commitment Studies and the Mutual Canada SCLC Post-Approval Commitment Studies) promptly after such reports and datasets are available. In addition, PharmaMar will also provide to Jazz, prior to database lock for cross-trial comparison of the Atlantis Trial, the pre-specified statistical analysis plan for cross-trial comparison of the treatment arm of the Atlantis Trial with the monotherapy data from PharmaMar's Clinical Trial known as PM1183-B-005-14 (i.e. the "basket trial"), which comparison will be submitted to the FDA to support the granting of Full Approval.

5.3 Expanded Access Program. Jazz acknowledges that PharmaMar has entered into a master service agreement and a related work order with [***] effective on [***], a copy of which has been provided to Jazz prior to the Effective Date, under which [***] was providing PharmaMar with services related to the set up and delivery of an EAP for the Licensed Product in the Jazz Territory in the SCLC Indication ("**EAP Agreement**"). Upon Jazz´s election under the Original License Agreement, the Parties acknowledge that the EAP Agreement was effectively assigned by PharmaMar to Jazz on [***].

5.4 Jazz Territory.

(a) Regulatory Responsibility in the Jazz Territory. Except as for the DMF and any development activity PharmaMar is entitled to conduct in the Jazz Territory under its own IND, Jazz:

(i) shall have the sole right to prepare and file for all Regulatory Approvals for Licensed Products in the Licensed Indication in the Jazz Territory;

(ii) shall have the sole right to communicate with the FDA and Health Canada with respect to Licensed Products in the Licensed Indication;

(iii) shall use Commercially Reasonable Efforts to file for NDA Approval in the Jazz Canada Territory for a Licensed Product in the SCLC Initial Indication as soon as commercially reasonable after the Restatement Effective Date and within the timeline, if any, established by Health Canada for such filing;

(iv) shall use Commercially Reasonable Efforts to file for NDA Approval in the Jazz Canada Territory for a Licensed Product in each Additional Indication for which Jazz files for NDA Approval in the Jazz U.S. Territory in accordance with Section 5.4(b)(iii);

(v) shall use Commercially Reasonable Efforts to (A) file for and obtain Pricing Approval for each Licensed Product in the Licensed Indication, to the extent required by Applicable Law, as soon as possible from the applicable Regulatory Authorities of the provinces in the Jazz Canada Territory and (B) conduct, without unreasonable delay, any Development activities required to obtain Pricing Approval in the Jazz Canada Territory;

(vi) shall use Commercially Reasonable Efforts to start, within a reasonable time period after the Restatement Effective Date, but in any event no later than [***] after the first NDA Approval by the FDA for the Licensed Product in the SCLC Initial Indication, a paid (either by patients or their health insurance) named patient access program for the Jazz Canada Territory in which patients in need will be supplied with the Licensed Product on a named patient basis;

(vii) shall be solely responsible for conducting pricing and reimbursement negotiations in the Jazz Territory for each Licensed Product in the Licensed Indication; and

(viii) shall own all Regulatory Filings (including Regulatory Approvals) for each Licensed Product in the Licensed Indication in the Jazz Territory.

(b) Cooperation.

(i) Each Party shall, at the other Party´s request, provide reasonable assistance with respect to regulatory matters concerning the Licensed Products in the other Party's Territory, including assistance with respect to Regulatory Filings required to obtain or maintain Regulatory Approval for a Licensed Product in the other Party's Territory. Without limiting the generality of the foregoing, PharmaMar shall consult with Jazz and provide Jazz with all CMC documents and information related to Licensed Products and all Licensed Product Data included within the Initial SCLC NDA Filing, except those CMC Information of Licensed API which is included in any section of the DMF other than Section S of Module 3 of the NDA in the Jazz U.S. Territory (or its foreign equivalent in the Jazz Canada Territory) and not otherwise publicly available. In the event that PharmaMar anticipates changes in the manufacture of the Licensed API which may impact the regulatory status of the Licensed Product in the Jazz Territory, the Parties shall review such changes and potential outcomes so Jazz may take the appropriate steps to support the Regulatory Filings. Except with respect to the DMF or manufacture and development activities in the Jazz Territory that PharmaMar is entitled to conduct under this Agreement, or as otherwise expressly requested by Jazz in writing, PharmaMar (i) shall not submit any Regulatory Filings for Licensed Products in the Jazz Territory without the prior written consent of Jazz and (ii) shall not communicate with respect to the Licensed Products with Regulatory Authorities in the Jazz Territory, unless so required to comply with Applicable Law in the Jazz Territory, in which case PharmaMar shall promptly

notify Jazz of such requirement under Applicable Law and, to the extent practicable and permitted under Applicable Law, shall submit any proposed communication to Jazz for prior approval or, if not practicable or permitted, shall provide Jazz with a copy or summary thereof as soon as reasonably practicable thereafter.

(ii) Jazz shall provide PharmaMar with drafts of proposed Regulatory Filings reasonably in advance of submission to the FDA, Health Canada or any other Regulatory Authority and PharmaMar shall have the right to review and comment on such Regulatory Filings prior to submission to Regulatory Authorities. Jazz shall [***]. Jazz shall promptly provide PharmaMar with copies of all material correspondence, Regulatory Filings and Regulatory Approvals received from the Regulatory Authorities with respect to the Licensed Product. To the extent allowed by the Regulatory Authorities, PharmaMar shall have the right to attend and participate with up to [***] representatives in all substantive meetings with the Regulatory Authorities with regard to Licensed Product.

(iii) At Jazz's reasonable request, PharmaMar shall reasonably cooperate and assist Jazz in facilitating launch activities with respect to the Licensed Product in the SCLC Initial Indication in the Jazz Territory, including cooperation and assistance with respect to preparing and submitting any Regulatory Filings relating to labeling, packaging materials and submission of the secondary packaging contractor designated by Jazz and with respect to discussions with the FDA or Health Canada related thereto.

(c) Additional Indications in the Jazz Territory.

(i) In the event that PharmaMar intends to conduct one or more Proposed Additional Indication Pivotal Trial, upon the written request of PharmaMar, in a manner consistent with the guidance and decisions of the JDC, Jazz shall promptly seek FDA and/or Health Canada guidance to ascertain if such Proposed Additional Indication Pivotal Trial would be a registration trial sufficient to support the filing of a NDA, as evidenced by an agreement with or statement from the FDA on a special protocol assessment procedure or the applicable procedure with respect to such guidance from Health Canada. Additionally, upon the written request of PharmaMar, in a manner consistent with the guidance and decisions of the JDC, Jazz shall seek to hold a pre-NDA meeting with the FDA or Health Canada to discuss the NDA related to the data obtained from an Additional Indication Pivotal Trial. To the extent allowed by the FDA and Health Canada, PharmaMar shall have the right to attend and participate in such meetings with the FDA and Health Canada. PharmaMar shall be responsible, at its own cost, for preparing all documents and materials reasonably necessary for any activities under this Section 5.4(c)(i). PharmaMar shall reimburse Jazz's costs and expenses (including FTE Costs) incurred in connection with such activities under this Section 5.4(c)(i) (A) performed with relation to the FDA to the extent that, on an interaction-by-interaction basis, such costs do not exceed [***] and (B) performed with relation to Health Canada to the extent that, on an interaction-by-interaction basis, such costs do not exceed [***].

(ii) If any Joint Additional Indication Pivotal Trial obtains Positive Results, Jazz shall use Commercially Reasonable Efforts to obtain Regulatory Approval from the FDA for such Additional Indication.

(iii) If any Additional Indication Pivotal Trial (other than a Joint Additional Indication Pivotal Trial) obtains Positive Results and Jazz determines in good faith that it will be profitable for Jazz to Commercialize the Licensed Product in such Additional Indication (which profitability determination shall take into account, without limitation, the probability of obtaining Regulatory Approval and the cost of obtaining Regulatory Approval and making the applicable Additional Indication Regulatory Milestone payment, *provided, that*, the profitability determination shall not take into account any potential loss of sales from a product (other than a Licensed Product) that was being developed or commercialized by Jazz or its Affiliates at the time such Additional Indication Pivotal Trial was Initiated), Jazz shall use Commercially Reasonable Efforts to obtain Regulatory Approval from the FDA for such Additional Indication. Prior to filing an NDA for such Additional Indication, if such Additional Indication is [***], Jazz shall provide written notice to PharmaMar of Jazz's good faith determination whether such Additional Indication is a Major Tumour, which determination shall be based on [***].

(iv) If Jazz determines in good faith that it would not be profitable for Jazz to Commercialize the Licensed Product in such Additional Indication, Jazz shall provide PharmaMar with a detailed information and breakdown of Jazz's calculations for such determination. If PharmaMar disputes whether such non-profitability determination was made by Jazz in good faith, the Parties agree to submit the dispute to [***] for final determination of whether such determination was made by Jazz in good faith or not. Once the IMRC makes such determination, it shall be fully applicable and binding on the Parties.

(v) If Jazz determined that such Additional Indication is not a Major Tumour but PharmaMar believes in good faith, based on the same factors, that such Additional Indication [***] and as a result should be classified as a Major Tumour, then such dispute shall be resolved by an independent Third Party expert experienced in determining treatable patient populations in the U.S. (the "**Expert**") as mutually agreed upon by the Parties. If the Parties cannot agree upon any such Expert within [***], then each Party shall propose one expert having such experience and such two proposed experts shall jointly select the Expert. Within [***] of the selection of the Expert, each party shall submit to the Expert and the other Party such information concerning [***]. The Expert shall determine whether or not such Additional Indication [***] and as a result should or should not be classified as a Major Tumour. The determination of the Expert shall be final and binding on the Parties, absent manifest error.

(vi) If any Additional Indication Pivotal Trial obtains Positive Results and Jazz determines in good faith that it would not be profitable for Jazz to Commercialize the Licensed Product in such Additional Indication, Jazz shall use Commercially Reasonable Efforts, upon PharmaMar's reasonable request, to include such Additional Indication in the NCCN Guidelines or any equivalent guidelines. In addition, Jazz shall also use Commercially Reasonable Efforts to include an Additional Indication in the NCCN Guidelines or any equivalent guidelines, upon PharmaMar's reasonable request, if PharmaMar conducts a Pivotal Trial in such Additional Indication that does not fulfill the conditions for being a Proposed Additional Indication Pivotal Trial but that obtains Positive Results.

(d) Drug Master File. PharmaMar shall file a Type II drug master file as described in and in accordance with the 21 CFR 314.420 and the foreign equivalent in the Jazz Canada Territory (each, a "**DMF**") with the FDA and Health Canada, as applicable, for the Licensed API and shall provide the appropriate authorizations to the FDA in order to grant Jazz (or its Affiliates or Sublicensees) the right to reference such DMF. PharmaMar shall be responsible for maintaining such DMF in accordance with Applicable Laws and ensuring that all Licensed Product Data incorporated therein is accurate and current as necessary to support filing and prosecuting the applicable Regulatory Filing and obtaining and maintaining the applicable Regulatory Approval for any Licensed Product hereunder. PharmaMar shall permit Jazz to access, and shall provide Jazz with true and complete copies of, [***]. Except to the extent that the following would require disclosure of the contents of any section of the DMF other than [***], PharmaMar shall (i) provide Jazz with drafts of proposed Regulatory Filings related to such DMF reasonably in advance of submission to the applicable Regulatory Authority in the Jazz Territory for Jazz's review and comment, (ii) consider Jazz's comments in good faith, and (iii) provide Jazz with copies of all material correspondence received from the applicable Regulatory Authority in the Jazz Territory with respect to such DMF.

(e) Other PharmaMar Regulatory Filings. With respect to all Regulatory Filings (other than the Initial SCLC NDA Filing) made by PharmaMar with a Regulatory Authority in the Jazz Territory regarding development activities with regard to Licensed Product in the Jazz Territory that PharmaMar is entitled to conduct under this Agreement, PharmaMar shall provide Jazz with drafts of such Regulatory Filings reasonably in advance of submission to such Regulatory Authority. Jazz shall have the right to review and comment on such Regulatory Filings prior to submission to any Regulatory Authority in the Jazz Territory, and PharmaMar shall [***]. PharmaMar shall promptly provide Jazz with copies of all material correspondence received from any Regulatory Authority in the Jazz Territory with respect thereto.

5.5 PharmaMar Territory.

(a) Regulatory Responsibility in the PharmaMar Territory. PharmaMar shall be responsible for preparing and filing for all Regulatory Approvals for Licensed Products in the Licensed Indication in the PharmaMar Territory and for communicating with all Regulatory Authorities with respect to Licensed Products in the Licensed Indication in the PharmaMar Territory. PharmaMar shall own all Regulatory Filings (including all Regulatory Approvals) for each Licensed Product in the Licensed Indication in the PharmaMar Territory. PharmaMar shall provide Jazz with copies of material Regulatory Filings for Licensed Products in the PharmaMar Territory and material correspondence received from any Regulatory Authority in the PharmaMar Territory related to Licensed Products. To the extent allowed by the applicable Regulatory Authority, Jazz shall have the right to have [***] representatives attend any material meetings with any Regulatory Authority in the PharmaMar Territory relating to Licensed Products. For the avoidance of doubt, notwithstanding Section 5.5 PharmaMar's material Regulatory Filings, Regulatory Approvals and material correspondence received from Regulatory Authorities shall be deemed solely material Regulatory Filings and Regulatory Approvals filed and/or granted, as applicable, before/by [***]with regard to Licensed Products and material communications with such Regulatory Authorities associated thereto. Such

documentation shall be provided in the languages that PharmaMar receives such documentation in, provided, that, if PharmaMar or its Affiliates translates any such documentation, PharmaMar shall also provide such translated versions to Jazz.

(b) Clinical Trials Conducted by Jazz. Upon the written request of Jazz, in a manner consistent with the guidance and decisions of the JDC, PharmaMar shall seek to hold meetings with the [***] to discuss the conduct of any Jazz Additional Indication Clinical Trial and Additional Indication Pivotal Trial of a Licensed Product conducted by Jazz [***]. To the extent allowed by the [***], Jazz shall have the right to attend and participate in all meetings with the [***] related to any Jazz Additional Indication Clinical Trial and Additional Indication Pivotal Trial of a Licensed Product conducted by Jazz [***]. Jazz shall reimburse all of PharmaMar's out-of-pocket costs associated with such activities.

(c) Other Jazz Regulatory Filings. With respect to Regulatory Filings made by Jazz with any Regulatory Authority in the PharmaMar Territory regarding development activities that Jazz is entitled to conduct under this Agreement in PharmaMar Territory, Jazz shall provide PharmaMar with drafts of such Regulatory Filings reasonably in advance of submission to any Regulatory Authority in the PharmaMar Territory. PharmaMar shall have the right to review and comment on such Regulatory Filings prior to submission to Regulatory Authorities in PharmaMar Territory, and Jazz shall [***]. Jazz shall promptly provide PharmaMar with copies of all material correspondence received from Regulatory Authorities of PharmaMar Territory with respect thereto.

5.6. Reporting. Each Party shall keep the other Party informed on an on-going and regular basis regarding its (or its Affiliate's or Third Party Partner's) regulatory strategy, planned regulatory submission and material communications regarding Licensed Products with Regulatory Authorities in [***], as applicable.

5.7. Notification of Threatened Action. Each Party shall immediately notify the other Party of any information it receives regarding any material threatened or pending action, inspection or communication by or from any Third Party, including without limitation a Regulatory Authority, which may materially affect the Development, Commercialization or regulatory status of a Licensed Product in the Licensed Indication, including any issuance of notices of inspections, inspection reports and receipt of compliance violation letters in any country of their respective Territories. Upon receipt of such information, the Parties shall consult with each other and assist each other in gathering and evaluating relevant information related thereto.

5.8. Remedial Actions. Each Party will notify the other Party immediately, and promptly confirm such notice in writing, if it obtains information indicating that the Licensed Product may be subject to any recall, market withdrawal, corrective action or other regulatory action with respect to a Licensed Product taken by virtue of Applicable Laws (a "**Remedial Action**"). The Parties will assist each other in gathering and evaluating such information as is necessary to determine the necessity of conducting a Remedial Action. Each Party shall, and shall ensure that its Affiliates and Third Party Partners will, maintain adequate records to permit the Parties to trace the manufacture, distribution and use of the Licensed Product. In the event

Jazz determines that any Remedial Action with respect to a Licensed Product in the Licensed Indication in the Jazz Territory should be commenced or is required by the applicable Regulatory Authority, Jazz shall have the right, at its expense, to control and coordinate all efforts necessary to conduct such Remedial Action.

5.9. Rights of Access and Reference to Regulatory Documents.

(a) Jazz hereby grants to PharmaMar (and its Affiliates and Third Party Partners in the PharmaMar Territory) the right to access and reference all Regulatory Filings submitted to, and Regulatory Approvals obtained from, the FDA or Health Canada by Jazz or its Affiliates for Licensed Products and to use the Licensed Product Data therein; in each case, solely for the purposes of (i) obtaining and maintaining Regulatory Approvals for Licensed Products in the Licensed Indication in the PharmaMar Territory, (ii) complying with applicable pharmacovigilance and other regulatory requirements with respect to Licensed Products in the PharmaMar Territory and (iii) exercising its rights and performing its obligations under this Agreement. Jazz shall, promptly upon PharmaMar's request, file with the applicable Regulatory Authority(ies) such letters of access or reference as may be necessary to accomplish the intent of this Section 5.9(a).

(b) PharmaMar hereby grants to Jazz (and its Affiliates) the right to access and reference all Regulatory Filings submitted to, and Regulatory Approvals obtained from, any Regulatory Authority in the PharmaMar Territory by PharmaMar (and its Affiliates and Third Party Partners in the PharmaMar Territory) for Licensed Products and to use the Licensed Product Data therein; in each case, solely for the purposes of (i) obtaining and maintaining Regulatory Approvals for Licensed Products in the Licensed Indication in the Jazz Territory, (ii) complying with applicable pharmacovigilance and other regulatory requirements with respect to Licensed Products in the Jazz Territory and (iii) exercising its rights and performing its obligations under this Agreement. PharmaMar shall, promptly upon Jazz's request, file with the applicable Regulatory Authority(ies) such letters of access or reference as may be necessary to accomplish the intent of this Section 5.9(b).

5.10 Safety Data Exchange. Each Party shall be solely responsible, at its own expense, for complying with all applicable regulatory requirements with respect to Licensed Products in such Party's Territory, including all safety reporting to Regulatory Authorities in such Party's Territory. The Parties have entered into a pharmacovigilance/safety data exchange agreement for Licensed Products (the *"***PV Agreement***"*), which sets forth standard operating procedures governing the collection, investigation, reporting, and exchange of information concerning adverse drug reactions/experiences. The Parties shall, promptly after the Restatement Effective Date (but in any event within [***] days after the Restatement Effective Date), negotiate in good faith an amendment to the PV Agreement to address the addition of Canada as part of the Jazz Territory. The terms of the PV Agreement shall be sufficient to permit each Party to comply with its regulatory and legal requirements for the management and reporting of safety data regarding such Licensed Products by providing for the exchange of relevant information in appropriate format within applicable timeframes.

6. Manufacturing.

6.1 Supply Agreement. The Parties have executed that certain Supply Agreement dated [***] (the "**Supply Agreement**"), pursuant to which PharmaMar manufactures and supplies to Jazz certain quantities of Bulk Vials for launch in Jazz U.S. Territory and ongoing supply of Licensed API for the Jazz U.S. Territory, in each case, in accordance with the terms and conditions therein. [***] after the Restatement Effective Date, the Parties shall negotiate in good faith and enter into an amendment to the Supply Agreement pursuant to which PharmaMar shall manufacture and supply to Jazz Licensed API also for the Jazz Canada Territory.

6.2 Quality Agreement. The Parties have executed that certain Quality Agreement effective on [***] (the "**Quality Agreement**"), which allocates roles and responsibilities to each Party with respect to quality control and regulatory compliance with respect to the manufacture and supply of Finished Product, Bulk Vials and Licensed API under the Supply Agreement. Timely after the Restatement Effective Date, unless the Parties mutually agree otherwise, the Parties shall discuss in good faith and enter into an amendment to the Quality Agreement in connection with the amendment to the Supply Agreement referenced in Section 6.1.

6.3 Technology Transfer. Upon the written request of Jazz, and to the [***], PharmaMar shall, [***], commence a technology transfer to a Third Party contract manufacturer [***] of all Information, including PharmaMar Know-How, which is reasonably necessary or is otherwise used in the manufacture and supply of Licensed Product for the Jazz Territory from the Licensed API to be supplied by PharmaMar (or its designee) pursuant to the Supply Agreement.

6.4 Jazz Territory Launch Responsibilities. Jazz shall be responsible for secondary manufacturing of the Finished Product, including the product required for the initial launch of the Licensed Product in the Jazz U.S. Territory in a timely manner from Bulk Vials supplied by PharmaMar pursuant to the Supply Agreement. Jazz shall be responsible to prepare, file and obtain, at its sole expense, any Regulatory Approval necessary to perform secondary packaging manufacturing activities of Bulk Vials supplied by PharmaMar at the secondary packager designated by Jazz as well as to obtain Regulatory Approvals required for packaging materials for the Licensed Product with Jazz trade dress.

In order for Jazz to comply with its obligations under the first sentence of Section 7.3 and hereunder, PharmaMar shall reasonably cooperate with and assist Jazz in establishing a viable program for a rapid launch in the U.S., which shall include PharmaMar importing into the Jazz Territory Bulk Vials of Licensed Product to be purchased by Jazz and delivery of such Bulk Vials to the secondary packager designated by Jazz prior to first Regulatory Approval for the Licensed Product.

For clarity, for launch of the Licensed Product in Jazz Canada Territory, PharmaMar will manufacture and supply to Jazz, in accordance with the Supply Agreement, Licensed API and, solely to the extent agreed by the Parties in the Supply Agreement, Bulk Vials. For clarity, except if the Parties agree in the amended Supply Agreement the supply of Bulk Vials for launch in Jazz Canada Territory, Pharma Mar shall not be obliged to supply Jazz with any quantities of Bulk Vials for the Jazz Canada Territory. Except with respect to any Bulk Vials supplied by

PharmaMar in accordance with the Supply Agreement, Jazz shall be responsible to manufacture Bulk Vials and for performing secondary packaging at the manufacturer designated by Jazz as well as to obtain any Regulatory Approvals required for doing so from Regulatory Authorities of Canada.

7. Commercialization

7.1 Commercialization in the Jazz Territory. Subject to Section 7.9, Jazz shall have the exclusive right to conduct, and be solely responsible for all aspects of, the Commercialization of Licensed Products in the Licensed Indication in the Jazz Territory, including: (a) developing and executing a commercial launch and pre-launch plan, (b) negotiating with applicable Governmental Authorities regarding the price and reimbursement status of Licensed Products, (c) marketing and promotion, (d) booking sales and distribution and performance of related services, (e) handling all aspects of order processing, invoicing and collection, inventory and receivables, (f) providing customer support, including handling medical queries, and performing other related functions, and (g) conforming its practices and procedures to Applicable Laws relating to the marketing, detailing and promotion of Licensed Products in the Jazz Territory (collectively, the "**Commercialization Activities**"). Subject to Section 7.9, as between the Parties, Jazz shall bear all of its costs and expenses incurred in connection with such commercialization activities in the Jazz Territory.

7.2 Commercialization in the PharmaMar Territory. As between the Parties, PharmaMar will have the exclusive right to conduct, and be solely responsible for all aspects of, the Commercialization of Licensed Products in the Licensed Indication in the PharmaMar Territory, including the Commercialization Activities, and PharmaMar shall bear all of its costs and expenses incurred in connection with such commercialization activities in the PharmaMar Territory.

7.3 Commercial Diligence. Jazz shall commence Commercialization of the Licensed Product in each country in the Jazz Territory as soon as practical after receipt of the Regulatory Approval for a Licensed Product for the SCLC Initial Indication in such country within the Jazz Territory. After such receipt of Regulatory Approval, Jazz shall use Commercially Reasonable Efforts to Commercialize such Licensed Product in such country within the Jazz Territory.

7.4 Sales Force. Jazz shall provide incentives consistent with Jazz's standards to its Sales Force involved in the Commercialization of the Licensed Product in the applicable country in the Jazz Territory. Jazz is responsible for the recruitment and training of its Sales Force for the Jazz Territory. Jazz shall periodically provide training to its Sales Force including training in relation to Applicable Law and codes of practice applicable to Sales Force activities. Jazz shall be responsible of preparing any training materials for its Sales Force training.

7.5 Annual Commercialization Plan.

(a) Jazz shall have the sole and final authority to determine the Annual Commercialization Plan. The initial Annual Commercial Plan will be prepared and presented to PharmaMar no later than [***] months prior to the expected First Commercial Sale of the

Licensed Product in the Jazz Territory and shall include, to the extent consistent with Jazz's standard practice for the preparation of commercialization plans for its other products, a comprehensive and, prior to launch, [***]. The Annual Commercialization Plan shall include [***]. Thereafter, Annual Commercialization Plan will be updated on a Calendar Year basis before the start of the applicable Calendar Year. Each Annual Commercialization Plan will be shared with PharmaMar for good faith review and discussion and Jazz will respond to one set of reasonable inquiries from PharmaMar, *provided* that final content of the Annual Commercialization Plan shall be determined solely by Jazz consistent with its diligence obligations pursuant to Section 7.3. For clarity, the content of Annual Commercialization Plan shall be deemed legally non-binding on Jazz and Jazz may change the Annual Commercialization Plan any time and anyhow as it may consider appropriate provided any such change is consistent with its diligence obligations pursuant to Section 7.3.

(b) The Annual Commercialization Plan will contain, in addition to the content referred subsection (a) above for the first Annual Commercialization Plan, at minimum, the following elements: (i) the [***], (ii) the minimum [***], (iii) high level description of the Licensed Product positioning, [***], (iv) high level description of any training programs to be conducted in each country within Jazz Territory, (v) high level description of the specifications for the development of marketing materials in each country within Jazz Territory, (vi) anticipated dates for the commercial launch in the Jazz Territory (split by country), (vii) high level description of the general [***], (viii) publication plan, (ix) such other information relating to the Commercialization of the Product in the Jazz Territory, as deemed advisable by Jazz, and (x) an annualized sales forecast for each country within the Jazz Territory, measured by units of the Licensed Products forecasted to be sold during the applicable Calendar Year in each country, each of the foregoing (i) through (x) to the extent consistent with Jazz's standard practice for the preparation of commercialization plans for its other products.

7.6 Commercialization Materials.

(a) Each Party shall promptly supply to the other Party at cost with one (1) copy in a format agreeable to both Parties (e.g., paper, electronic or digital), in accordance with such other Party's reasonable requests, of each core form of marketing, advertising and promotional materials, and training manuals for its or its Affiliates' medical and sales representatives, that are necessary or useful with respect to the Commercialization of the Licensed Product (collectively "**Commercialization Materials**") and such other Party (including PharmaMar´s Third Party Partners) shall have the right to reproduce, translate, use, directly or indirectly, any such Commercialization Materials in connection with the Commercialization of the Licensed Product. PharmaMar shall use Commercially Reasonable Efforts to obtain from its Third Party Partners and provide Jazz with one (1) copy of all such Commercialization Materials used by such Third Party Partners in PharmaMar Territory, including the right for Jazz to reproduce, translate and use the same in connection with the Commercialization of the Licensed Product in the Jazz Territory.

(b) Jazz shall be responsible for preparing, at its own cost, all Commercialization Materials for the launch of the Licensed Product in the Jazz Territory

("**Launch Materials**"), such Launch Materials to be submitted to Regulatory Authorities as may be required by Applicable Law.

7.7 Commercialization Compliance. Each Party undertakes hereby to comply, with regard to all Commercialization Materials (including websites, e-commerce and other Internet uses) and Commercialization activities conducted, with all Applicable Laws in its respective Territory and the Pharmaceutical Research and Manufacturers of America ("**PhRMA**") Code of Pharmaceutical Marketing Practices (the "**PhRMA Code**"). Each Party shall promptly notify the other Party of and provide a copy of any material correspondence or other reports with respect to promotion of the Licensed Product submitted to or received from a Regulatory Authority or other Governmental Authority relating to compliance with Applicable Law in conducting the activities contemplated by this Agreement.

7.8 Annual Sales Performance.

(a) Annual Sales Forecast Plan.

(i) Before the end of each Calendar Year during the ASFP Term, Jazz will submit to PharmaMar (A) a proposed annualized sales forecast for the Jazz U.S. Territory, measured by units of the Licensed Products forecasted to be sold during the following Calendar Year for review and approval by PharmaMar, such approval not to be unreasonably withheld (the "**U.S. Annual Sales Forecast Plan**" or "**U.S. ASFP**") and (B) commencing after the first full Calendar Year after the Calendar Year in which Jazz or its Affiliate makes the First Commercial Sale of a Licensed Product in the Jazz Canada Territory, a proposed annualized sales forecast for the Jazz Canada Territory, measured by units of the Licensed Products forecasted to be sold during the following Calendar Year for review and approval by PharmaMar, such approval not to be unreasonably withheld (the "**Canada Annual Sales Forecast Plan**" or "**Canada ASFP**" and together with the U.S. Annual Sales Forecast Plan or the U.S. ASFP, the "**Annual Sales Forecast Plans**" or "**ASFPs**").

(ii) If PharmaMar provides written notice of non-approval of a proposed ASFP within [***] days of receipt of such proposed ASFP from Jazz, then both Parties hereby agree that an independent market research company ("**IMRC**") will serve as an independent market research company and will determine the ASFP that shall be reasonably achievable by Jazz in the Jazz U.S. Territory or Jazz Canada Territory, as applicable, for such Calendar Year, which shall take into consideration all available market research data and prescription trends as well as other commercially reasonable factors, including the actual volume of Annual Net Sales achieved in previous periods in the Jazz U.S. Territory or Jazz Canada Territory, as applicable, as well as market trends. If PharmaMar does not provide notice of non-approval of a proposed ASFP within [***] days of receipt of such proposed ASFP from Jazz, then such proposed ASFP shall be deemed approved by PharmaMar.

(iii) The Parties hereby agree that they shall jointly appoint [***] as the IMRC in the event PharmaMar provides written notice of non-approval of any proposed ASFP in accordance with the terms of this Section 7.8(a). In the event [***] does not accept any such appointment within [***] days from the communication of its appointment, the Parties hereby

agree that each Party shall appoint one independent Third Party market research company and the IMRC shall be appointed by the two selected independent Third Party market research companies.

(iv) Within [***] days of the appointment of the IMRC for a particular Calendar Year, each of the Parties will provide the IMRC with accurate and detailed information and documentation about sales of the Licensed Product for at least the past [***] years and [***] year forecasted sales of the Licensed Product for the Jazz U.S. Territory or Jazz Canada Territory, as applicable (if such data is available at a given time), and any other information requested by the IMRC, acting in good faith at all times. The IMRC will, within [***] after its appointment, issue a report determining the ASFP for the Jazz U.S. Territory or the Jazz Canada Territory, as applicable, that shall be reasonably achievable by Jazz in relation to the Calendar Year in the ASFP Term for which PharmaMar provides written notice of non-approval of any proposed ASFP within [***] days of receipt. Once the IMRC determines the ASFP for the Jazz U.S. Territory or Jazz Canada Territory, as applicable, for a given Calendar Year, such ASFP shall be fully applicable and binding on the Parties with respect to such Calendar Year. Fees and expenses of the IMRC in determining the ASFP shall be borne by PharmaMar.

(b) Annual Sales Performance. Jazz shall meet (i) [***] of the U.S. ASFP for the Jazz U.S. Territory of each Calendar Year during the applicable ASFP Term and (ii) [***] of the Canada ASFP for the Jazz Canada Territory of each Calendar Year during the applicable ASFP Term. Nothing in this Section 7.8(b) shall be construed or understood as releasing Jazz's diligence obligations pursuant to Section 7.3.

(c) Failure to Achieve Annual Sales Performance Standard. In the event Jazz fails to achieve [***] of the U.S. ASFP in any Calendar Year during the applicable ASFP Term or fails to achieve [***] of the Canada ASFP in any Calendar Year during the applicable ASFP Term, then as PharmaMar's sole and exclusive remedy for such failure, the terms of this Section 7.8(c) shall apply with respect to the Jazz U.S. Territory or Jazz Canada Territory, as applicable, provided Jazz has satisfied its diligence obligations pursuant to Section 7.3 with respect to such country. For clarity, any failure to achieve [***] of the U.S. ASFP or Canada ASFP in any Calendar Year during the applicable ASFP Term shall not be deemed a material breach of this Agreement, provided Jazz has satisfied its diligence obligations pursuant to Section 7.3 with respect to such country.

(i) In the event that Jazz fails to achieve [***] of the U.S. ASFP in any Calendar Year during the applicable ASFP Term and the cause for such failure is not attributable in part to acts or omissions of PharmaMar (including a failure to supply Licensed API or Licensed Product pursuant to the terms of the Supply Agreement) or a Force Majeure, then within [***] days after the end of such Calendar Year, Jazz shall submit to PharmaMar an action plan detailing [***]. Jazz will use Commercially Reasonable Efforts to implement such action plan during the following Calendar Year.

(ii) In the event that Jazz fails to achieve [***] of the U.S. ASFP in [***] Calendar Years during the applicable ASFP Term and the cause for each such failure is not attributable in part to acts or omissions of PharmaMar (including a failure to supply Licensed

API or Licensed Product pursuant to the terms of the Supply Agreement) or a Force Majeure, then as of the start of the next Calendar Year after such failures and thereafter [***], the base royalty rate for the first tier under Section 8.7(a) shall be increased from [***] to [***] with respect to Net Sales in the Jazz U.S. Territory. Attached hereto as **Exhibit E** is an example demonstrating the implementation of such increase to the base royalty rate solely with respect to Net Sales in the Jazz U.S. Territory and not with respect to Net Sales in the Jazz Canada Territory.

(iii) In the event that Jazz fails to achieve [***] of the U.S. ASFP in any Calendar Year during the applicable ASFP Term and the cause for such failure is not attributable in part to acts or omissions of PharmaMar (including a failure to supply Licensed API or Licensed Product pursuant to the terms of the Supply Agreement) or a Force Majeure, then PharmaMar shall have [***] months after the end of such Calendar Year for which such failure occurred to elect either (A) to exercise its Co-Promotion Option pursuant to Section 7.9(a) or (B) for the base royalty rate for the first tier under Section 8.7(a) to be increased from [***] to [***] with respect to Net Sales in the Jazz U.S. Territory as of the start of the next Calendar Year after such failure and continuing during the [***] (if Pharma Mar elects for the base royalty rate increase as set forth hereunder, **Exhibit E** attached includes an example demonstrating the implementation of such increase to the base royalty rate solely with respect to Net Sales in the Jazz U.S. Territory and not with respect to Net Sales in the Jazz Canada Territory).

(iv) In the event that Jazz fails to achieve (A) [***] of the Canada ASFP in [***] Calendar Years during the applicable ASFP Term or (B) [***] of the Canada ASFP in any Calendar Year during the applicable ASFP Term, and in each case of (A) and (B), the cause for each such failure is not attributable in part to acts or omissions of PharmaMar (including a failure to supply Licensed API or Licensed Product pursuant to the terms of the Supply Agreement) or a Force Majeure, then solely upon the first such occurrence, (x) the ASFP Term as it relates to the Jazz Canada Territory shall be extended until the end of the [***] Calendar Year period starting after the end of the first full Calendar Year after the Calendar Year in which Jazz or its Affiliate makes the First Commercial Sale of a Licensed Product in the Jazz Canada Territory and (y) in addition to the royalties payable on Net Sales in the Jazz Canada Territory pursuant to Section 8.7, Jazz will pay PharmaMar an additional [***] royalty on Net Sales in the Jazz Canada Territory starting as of the start of the next Calendar Year and for [***] (as extended pursuant to subsection (x) above). For clarity, the remedy provided for pursuant to this Section 7.8(c)(iv) is applicable [***]. **Exhibit E** attached includes an example demonstrating the implementation of such increase to the royalty rates solely with respect to Net Sales in the Jazz Canada Territory and not with respect to Net Sales in the Jazz U.S. Territory.

7.9 Co-Promotion Option

(a) Option. In the event that either (i) (A) there is a Change of Control of Jazz Pharmaceuticals PLC within [***] years of the Effective Date by a [***] and (B) at any time during the [***], the [***], and such [***] or (ii) Jazz fails to achieve [***] of the U.S. ASFP in any Calendar Year during the ASFP Term and the cause for such failure is not attributable in part to acts or omissions of PharmaMar (including a failure to supply Licensed

API or Licensed Product to the Jazz U.S. Territory pursuant to the terms of the Supply Agreement) or a Force Majeure, then in each case of (i) or (ii), PharmaMar shall have the option to co-promote the Licensed Product in the Jazz U.S. Territory in accordance with this Section 7.9 (the "**Co-Promotion Option**"). PharmaMar shall have the right, in its sole discretion, to exercise such Co-Promotion Option by delivering to Jazz written notice (x) at any time within [***] months after the end of [***] or (y) [***] months after the end of such Calendar Year for which such failure to achieve [***] of the U.S. ASFP in any Calendar Year during the ASFP Term occurred, as applicable based on the triggering event for such Co-Promotion Option, *provided* that, in each case, PharmaMar is then currently [***].

(b) Effect of Option Exercise. Within [***] days after PharmaMar's exercise of its Co-Promotion Option, pursuant to Section 7.9(a), the Parties will execute a joint commercial agreement that sets forth the terms and conditions pursuant to which the Parties will collaborate in promoting the Licensed Products in the Licensed Indications in the Jazz U.S. Territory, including the terms set forth on **Exhibit F** (the "**Co-Promotion Agreement**").

7.10 Change of Control. In the event that there is a Change of Control of Jazz Pharmaceuticals PLC within [***] years of the Restatement Effective Date by a company who is engaged in a Competing Program (as defined in Section 2.4(c)) in the Jazz Canada Territory, then Jazz shall have the right to elect for its new Affiliate to either (a) wind down or complete the Divestiture of such Competing Program in the Jazz Canada Territory within [***] months from the closing date of such Change of Control, and Jazz's new Affiliate's conduct of such Competing Program during such [***] month period will not be deemed a breach of Jazz's exclusivity obligations in Section 2.4(b); *provided, that* during such [***] month period such new Affiliate complies with the provisions of Section 2.4(c)(1) or (b) continue such Competing Program independently of the activities under this Agreem ent and Jazz's new Affiliate's conduct of such Competing Program will not be deemed a breach of Jazz's exclusivity obligations in Section 2.4(b); *provided, that* such new Affiliate complies with the provisions of Section 2.4(c)(1). If Jazz elects for its new Affiliate to continue such Competing Program independently in accordance with subsection (b) above, then at any time during the [***] month period following the closing of such Change of Control, if the gross sales of Licensed Products in the Jazz Canada Territory obtained in the first [***] month period or the second [***] month period following the closing of such Change of Control are reduced by at least [***] in the Jazz Canada Territory in the [***] month period immediately preceding the closing of such Change of Control, and such reduction is not due in part to a Force Majeure or a significant market event such as the launch of a Generic Product or a competitive product for an approved Indication, then Jazz will pay PharmaMar an additional [***] royalty on Net Sales in the Jazz Canada Territory starting as of the start of the next Calendar Quarter after such reduction and for the remainder of the Royalty Term in the Jazz Canada Territory. **Exhibit E** attached includes an example demonstrating the implementation of such increase to the royalty rates solely with respect to Net Sales in the Jazz Canada Territory and not with respect to Net Sales in the Jazz U.S. Territory.

7.11 Medical Affairs

(a) General. Jazz shall have the sole and final authority to plan, determine and implement Medical Affairs activities in the Jazz Territory at its own cost. Jazz shall share with PharmaMar any annual plan for Medical Affairs activities prepared by Jazz to be conducted in the Jazz Territory in each Calendar Year. Jazz will respond to any reasonable inquiries from PharmaMar provided however those Medical Affairs activities to be conducted in the Jazz Territory shall be determined solely by Jazz in a manner consistent with its standard practice. It is understood by the Parties that Medical Affairs activities will be conducted for that purpose to produce good, objectively valid and reliable scientific evidence relating to the Licensed Product and/or the relevant disease, and not for commercial or promotional purposes. For clarity, content of annual plan Medical Affairs shall be deemed legally non-binding on Jazz and Jazz may change such plan any time and anyhow as it may consider appropriate provided any such change is consistent with its standard practice.

(b) Exchange of Medical Affairs Studies Information. Jazz and PharmaMar, respectively, shall provide the other Party with copies of the Information obtained from any and all Medical Affairs Studies conducted in each Party´s Territory at no expense to the other Party provided such Information is available. Each Party shall be entitled to use such Information for the development, manufacturing, use or commercialization of the Licensed Product in its Territory and shall be entitled to disclose such Information to any Sublicensees and Third Party Partners for the same purposes in its Territory.

(c) Medical Information. Jazz shall be responsible at its own cost for medical information activities with respect to the Licensed Products in the Jazz Territory, including ensuring that adequate medical information is in place where relevant in the Jazz Territory and that all medical information requests are responded by Jazz in connection with the Licensed Product originating in the Jazz Territory. Any medical enquiries which are related to adverse events of Licensed Products shall be managed according to Safety Data Exchange Agreement. On a quarterly basis Jazz shall provide PharmaMar with a report of all medical information requests received and all responses provided to such requests in such quarter. In addition, Jazz shall provide PharmaMar every [***] months during the Term with all standard letters generated by Jazz in the Jazz Territory with regard to the Licensed Product.

8. Financial Terms

8.1 Upfront Payments.

(a) The Parties acknowledge that, Jazz timely made a one-time, non-refundable upfront payment to PharmaMar of two hundred million Dollars ($200,000,000) pursuant to the Original License Agreement.

(b) Within [***] days after the Restatement Effective Date, Jazz shall pay to PharmaMar a one-time, non-refundable upfront payment of [***].

8.2 Pivotal Trial Costs.

(a) Pivotal Trial Cost Sharing. In the event Jazz elects pursuant to Section 4.2(c)(i) to share costs for a particular Additional Indication Pivotal Trial, then the Parties shall share all Pivotal Trial Costs for such Joint Additional Indication Pivotal Trial with [***] of such Pivotal Trial Costs. Each Party may propose amendments to Joint Additional Indication Pivotal Trial Budget which shall not be implemented until approved by the JDC, such approval not to be unreasonably withheld (it would be unreasonable not to approve any amendment to the Joint Additional Indication Pivotal Trial Budget if the Joint Additional Indication Pivotal Trial is amended by the JDC in a manner that implies a change to the assumptions or a change in the protocol which were taken into account at the time the initial Joint Additional Indication Pivotal Trial Budget was approved). Each Party shall be responsible for [***] of the Pivotal Trial Costs that it incurs in connection with any Joint Additional Indication Pivotal Trial that [***], except for those [***].

(b) Pivotal Trial Cost Reports; Reconciliation Report. Within [***] days after the end of each Calendar Quarter during which either Party has incurred any Pivotal Trial Costs, such Party shall submit to the other Party a reasonably detailed written report setting forth the total of such Pivotal Trial Costs incurred by such Party in such Calendar Quarter. Within [***] days before the end of each Calendar Quarter during which either Party has incurred any Pivotal Trial Costs, such Party shall submit to the other Party a good-faith, non-binding estimate of the total of such Pivotal Trial Costs incurred by such Party in such Calendar Quarter. Within [***] days after the end of each such Calendar Quarter, PharmaMar shall provide Jazz with a written report setting forth the net payment due from one Party to the other Party to effectuate the sharing of Pivotal Trial Costs as set forth in this Section 8.2 (the "**Reconciliation Report**"). The Party that is owed money pursuant to the Reconciliation Report shall issue an invoice to the paying Party for the applicable Pivotal Trial Costs promptly after receipt (or delivery, as applicable) of such Reconciliation Report. Any payment owed by one Party to the other Party shall be paid within [***] days following receipt of such invoice.

(c) Creditable Against Sales Milestone Payments. All Pivotal Trial Costs paid by Jazz shall be fully creditable against all Sales Milestone Payments for the Jazz U.S. Territory due and payable thereafter pursuant to Section 8.6.

8.3 Development Costs for SCLC Post-Approval Commitment Studies.

(a) In the event Jazz exercises its right to conduct any U.S. SCLC Post-Approval Commitment Studies or Mutual Canada SCLC Post-Approval Commitment Studies itself in accordance with Section 4.1(b), then PharmaMar shall be responsible for one hundred percent (100%) of the Development Costs up to [***] of the U.S. SCLC Post-Approval Commitment Studies Budget or Mutual Canada SCLC Post-Approval Commitment Studies Budget, as applicable. Within [***] days after the end of each Calendar Quarter during which Jazz has incurred any Development Costs with respect to the U.S. SCLC Post-Approval Commitment Studies or Mutual Canada SCLC Post-Approval Commitment Studies, Jazz shall submit to PharmaMar a reasonably detailed written report setting forth the total of such Development Costs incurred by Jazz in such Calendar Quarter and invoicing PharmaMar for [***] of such Development Costs provided however that Jazz shall be responsible for 100% of

the Development Costs that it incurs in connection with any U.S. SCLC Post-Approval Commitment Studies or Mutual Canada SCLC Post-Approval Commitment Studies that exceed [***], except for those [***]. PharmaMar shall pay any amount due and invoiced hereunder within [***] days after the receipt of the invoice.

(b) Development Costs incurred for the performance of the Jazz Canada SCLC Post-Approval Commitment Studies shall be creditable up to [***] of the Jazz Canada SCLC Post-Approval Commitment Studies Budget solely against those Regulatory Milestone Payments, Sales Milestone Payments and royalty payments related to the Jazz Canada Territory thereafter due and payable pursuant to Section 8.4, Section 8.6 and Section 8.7, as applicable as set forth in Section 4.1(b)(iii) and this Section 8.3(b). For clarity, such Development Costs shall solely be creditable against Regulatory Milestone Payment no. 4 of Section 8.4, against Sales Milestone Payments no. 6, 7 and 8 of Section 8.6 and against those royalty payments under Section 8.7 which correspond to Net Sales in the Jazz Canada Territory.

8.4 Regulatory Milestone Payments. The Parties acknowledge that, Jazz timely made a one-time, non-refundable milestone payment to PharmaMar of one hundred million Dollars ($100,000,000) pursuant to the Original License Agreement upon NDA Approval for the Licensed Product in the Jazz U.S. Territory, with the requirement of confirmatory clinical trial(s), [***]. Within [***] days of the first achievement of each of the milestone events set forth in the table below by Jazz, its Affiliates or Sublicensees (each, a "**Regulatory Milestone**"), Jazz shall provide PharmaMar with written notice of such achievement and shall, subject to any credits available pursuant to Section 8.3(b), pay to PharmaMar the corresponding one□ time, non-refundable milestone payment set forth below:

Milestone Event	Milestone Payment
1. [***]	[***]
2. [***]	[***]
3. [***]	[***]
4. [***]	[***]

Each of the foregoing milestone payments (each, a "**Regulatory Milestone Payment**") shall be payable only one time, for the first achievement of the applicable milestone event.

Regulatory Milestone #1 and Regulatory Milestone #2 are mutually exclusive and cannot both be achieved.

The maximum total of all remaining unpaid Regulatory Milestone Payments pursuant to this Section 8.4 as of the Restatement Effective Date is [***] Dollars [***], which can

be achieved through (a) the achievement of [***] (b) the achievement of [***] which together total [***].

8.5 Additional Indication Regulatory Milestones. In the event (a) Jazz elects to have PharmaMar fund [***] of the costs for an Additional Indication Pivotal Trial in accordance with Section 4.2(c)(ii), (b) such Additional Indication Pivotal Trial obtains Positive Results; and (c) Jazz determines in good faith that it will be profitable for Jazz to Commercialize such Licensed Product in the Additional Indication in the Jazz U.S. Territory (which profitability determination shall include, without limitation, the cost of obtaining Regulatory Approval and making the applicable Additional Indication Regulatory Milestone payment), then within [***] days of the first achievement for such Additional Indication of the applicable milestone event set forth in the table below by Jazz, its Affiliates or Sublicensees (each, an "**Additional Indication Regulatory Milestone**"), Jazz shall provide PharmaMar with written notice of such achievement and shall, subject to any credits available pursuant to Section 8.3(b), pay to PharmaMar the corresponding one□ time milestone payment set forth below:

Milestone Event	Milestone Payment
1. [***]	[***]
2. [***]	[***]

For clarity, only one of the foregoing milestone payments (each, an "**Additional Indication Regulatory Milestone Payments**") shall be payable for each Additional Indication.

All Additional Indication Regulatory Milestone Payments shall be fully creditable against all Sales Milestone Payments for the Jazz U.S. Territory thereafter due and payable pursuant to Section 8.6.

8.6 Net Sales Milestone Payments. Within [***] days of the end of the first Calendar Year in which each of the milestone events set forth in the table below is achieved by Jazz, its Affiliates or Sublicensees (each, a "**Sales Milestone**"), Jazz shall provide PharmaMar with written notice of such achievement and shall, subject to any credits available pursuant to Section 8.3(b), Section 8.2 or Section 8.5, pay to PharmaMar the corresponding one□ time, non-refundable milestone payment set forth below:

Milestone Event	Milestone Payment
1. [***]	[***]
2. [***]	[***]
3. [***]	[***]
4. [***]	[***]
5. [***]	[***]
6. [***]	[***]
7. [***]	[***]
8. [***]	[***]

Each of the foregoing milestone payments (each, a "**Sales Milestone Payment**") shall be payable only one time, for the first achievement of the applicable milestone event. The maximum total of all Sales Milestone Payments pursuant to this Section 8.5 is [***] Dollars [***]. For clarity, if more than one Sale Milestone Event is achieved in the same Calendar Year, all Sale Milestone Payments corresponding to such Events achieved in such Calendar Year shall be paid by Jazz in aggregate.

8.7 Royalties.

(a) Royalty Rates. Jazz shall, subject to any credits available pursuant to Section 8.3(b), pay to PharmaMar royalties on incremental aggregate annual Net Sales in the Jazz Territory in each Calendar Year (the "**Licensed Product Royalty**") at the applicable rate(s) set forth below:

Annual Net Sales in the Jazz Territory	Royalty Rate
[***]	[***]
[***]	[***]
[***]	[***]
[***]	30%

(b) Royalty Term. Royalties under Section 8.7 shall be payable on a Licensed Product-by-Licensed Product and country-by-country basis in the Jazz Territory from First Commercial Sale of such Licensed Product in such country in the Jazz Territory until the

latest of (a) expiration of the last Valid Claim of the PharmaMar Patents (excluding Jazz Solely Invented Specific Inventions and Jazz Solely Invented Specific Combination Inventions) in the Jazz Territory covering the composition of matter of the Licensed API contained in such Licensed Product in such country, (b) expiration of Regulatory Exclusivity for such Licensed Product in such country in the Jazz Territory and (c) twelve (12) years after such First Commercial Sale in such country (the "**Royalty Term**").

(c) Loss of Exclusivity Reduction. On a Licensed Product-by-Licensed Product and country-by-country basis, if, during the Royalty Term for such Licensed Product, one or more Generic Products of such Licensed Product is sold by a Third Party in such country, then as of the month in which such Generic Product was first sold in such country, for the remainder of the Royalty Term for such Licensed Product in such country, Jazz's royalty payment obligations with respect to Net Sales of such Licensed Product in such country in the Jazz Territory shall be reduced by [***].

(d) Third Party Licenses.

(i) Notice. In the event either Party identifies any item of intellectual property controlled by a Third Party that it considers to be [***] for the manufacture, Development or Commercialization of a Licensed Product (alone or in combination with another composition of matter), it shall notify the other Party in writing and shall provide a reasonably detailed specification of the nature and scope of such item of intellectual property.

(ii) Negotiation of Third Party Licenses. Jazz shall have the right to negotiate the terms and conditions for a license from such Third Party under any intellectual property rights identified under a notice in Section 8.7(d)(i) to the extent applicable to the Jazz Territory and to the extent applicable to the exercise of Jazz's rights under this Agreement in the PharmaMar Territory. Upon agreement of the material terms of any such license agreement with such Third Party, Jazz shall disclose such material terms to PharmaMar and PharmaMar shall have a period of [***] days to elect whether it would like to negotiate for a worldwide license to such intellectual property rights. In the event PharmaMar provides notice in such [***] day period that it would like to negotiate a worldwide license for such intellectual property right, then PharmaMar shall have [***] days to negotiate a worldwide license agreement for such intellectual property rights with such Third Party. In the event (A) PharmaMar is [***] and (B) the Parties are able to agree upon the allocation of any non-royalty consideration that is not directly related to activities conducted solely by one of the Parties or their respective Affiliates or Sublicensees or Third Party Partners, as applicable, then upon agreement of the Parties that (A) and (B) have both been satisfied, PharmaMar shall have the right to enter into a worldwide license agreement on such agreed upon terms and conditions. If either (x) PharmaMar does not elect to negotiate a worldwide license within such [***] day period, (y) either (A) or (B) above are not satisfied or (z) PharmaMar does not execute a worldwide license agreement with such Third Party within [***] days of agreement by the Parties that (A) and (B) above have been satisfied, then Jazz shall have the right to execute a license from such Third Party under such intellectual property rights to the extent applicable to the Jazz Territory and to the extent applicable to the exercise of Jazz's rights under this Agreement in the PharmaMar Territory. If

PharmaMar enters into a license for such item of intellectual property, for the avoidance of doubt, such intellectual property shall be included in the Jazz License provided for by this Agreement and Jazz shall be responsible (subject to the reduction in (iv) below) for all payments owed under such agreement that are directly related to activities conducted solely by Jazz or its Affiliates or Sublicensees and for the agreed upon allocation of all other payments as agreed upon by the Parties under (B) above.

(iii) PharmaMar Challenge. With respect to any intellectual property rights identified under a notice in Section 8.7(d)(i), if PharmaMar provides written notice to Jazz within [***] days of receipt of such notice that it elects to challenge such item of intellectual property, then PharmaMar shall be deemed to have [***] and PharmaMar shall keep Jazz reasonably informed of such challenge. In the event Jazz [***] and PharmaMar [***], then Jazz shall [***].

(iv) Third Party License Reduction. For any license to Third Party intellectual property rights that are [***] for the manufacture, Development or Commercialization of Licensed Product entered into by Jazz or PharmaMar or their respective Affiliates pursuant to Section 8.7(d)(ii), Jazz shall have the right to deduct from any royalty that would otherwise have been due pursuant to this Section 8.7 in a particular Calendar Quarter an amount equal to [***] paid by Jazz or its Affiliates for such rights; *provided, that* if such license was entered in to by Jazz pursuant to Section 8.7(d)(ii), with respect to any [***], if the applicable Third Party license relates to [***], then such [***] for such rights shall be [***]; and, *provided, further, that* under no circumstances shall the royalty payments otherwise payable to PharmaMar pursuant to this Section 8.7 for any Calendar Quarter in the absence of this reduction be reduced by more than [***] as a result of this Section 8.7(d). Jazz may carry forward to subsequent Calendar Quarters any deductions that it was not able to deduct as a result of the foregoing provision. In the event that Jazz intends to deduct any amounts pursuant to this Section 8.7(d), it shall provide PharmaMar a copy of the agreement with the applicable Third Party.

(v) Neither Party shall, in any event, enter in a written agreement that admits any infringement of any Third Party intellectual property rights by Jazz or Pharma Mar or its respective Affiliates, Sublicensees or Third Party Partners or invalidity or unenforceability of the PharmaMar Technology, without the prior written consent of the other Party.

9. Payments; Records; Audits

9.1 Royalty Reports and Payments. Royalties under Section 8.7 (and Section 7.8(c)(iv), if applicable) shall be calculated and reported for each Calendar Quarter during the Royalty Term and shall be paid within [***] days after the end of the Calendar Quarter. Each such payment shall be accompanied or preceded by a report (the "**Royalty Report**"), on a Licensed Product-by-Licensed Product and country-by-country basis, of (a) the amount of gross sales and Net Sales of Licensed Products during the applicable Calendar Quarter, (b) units of Licensed Products sold during the applicable Calendar Quarter, (c) a calculation of the amount of royalty payment due on such sales for such Calendar Quarter, (d) any applicable royalty adjustments under Sections 8.7(c) and 8.7(d), and (e) a revised calculation of the payment due

after the application of such adjustments. Upon PharmaMar reasonable request, Jazz shall provide PharmaMar with any further information regarding calculations made in the Royalty Report.

9.2 Manner of Payment. All payments owed by Jazz under this Agreement shall be made by wire transfer in immediately available funds to a bank account designated in writing by PharmaMar. All payment amounts in this Agreement are expressed in Dollars, and all payments hereunder shall be payable in Dollars, except for payment of transfer prices for the supply of the Licensed Products (whether as Bulk Vials or Finished Products as applicable) and Licensed API which shall be expressed and made in Euros according to Supply Agreement.

9.3 Taxes.

(a) Taxes on Income. Each Party shall be solely responsible for the payment of all taxes imposed on its share of income arising directly or indirectly from the efforts of the Parties under this Agreement.

(b) Tax Cooperation. The Parties agree to cooperate with one another and use reasonable efforts to reduce or eliminate tax withholding or similar obligations in respect of royalties, milestone payments, and other payments made by Jazz to PharmaMar under this Agreement. To the extent Jazz is required to deduct and withhold taxes on any payment to PharmaMar, Jazz shall pay the amounts of such taxes to the proper Governmental Authority in a timely manner and promptly transmit to PharmaMar an official tax certificate or other evidence of such withholding sufficient to enable PharmaMar to claim such payment of taxes. PharmaMar shall provide Jazz any tax forms that may be reasonably necessary in order for Jazz not to withhold tax or to withhold tax at a reduced rate under an applicable bilateral income tax treaty. Each Party shall provide the other with reasonable assistance to enable the recovery, as permitted by Applicable Laws, of withholding taxes, value added taxes, or similar obligations resulting from payments made under this Agreement, such recovery to be for the benefit of the Party bearing such withholding tax or value added tax.

9.4 Audits. Jazz and its Affiliates and Sublicensees will maintain complete and accurate records in reasonably sufficient detail to permit PharmaMar to confirm the accuracy of the calculation of Development Costs, royalty payments and Sales Milestone Payments. Each Party and its Affiliates will maintain complete and accurate records in reasonably sufficient detail to permit the other Party to confirm the accuracy of the calculation of Pivotal Trial Costs incurred under this Agreement. Upon reasonable prior notice, such records shall be available during regular business hours for a period of [***] years from the end of the Calendar Year to which they pertain for examination, not more often than once each Calendar Year, by an independent certified public accountant selected by the auditing Party and reasonably acceptable to the audited Party, for the sole purpose of verifying the accuracy of the financial reports furnished by the other Party pursuant to this Agreement. Any such auditor shall enter into a confidentiality agreement with the audited Party and shall not disclose the audited Party's Confidential Information, except to the extent such disclosure is necessary to verify the accuracy of the financial reports furnished by the audited Party or the amount of payments due by one Party to the other Party under this Agreement. Any amounts shown to be owed but unpaid shall

be paid together with the interest rate set forth in Section 9.5, and any amounts showed to be overpaid will be refunded, within [***] days from the accountant's report. The auditing Party shall bear the full cost of such audit unless such audit discloses an underpayment or overcharge by the audited Party of more than [***] of the amount due, in which case the audited Party shall bear the full cost of such audit.

9.5 Late Payments. In the event that any payment due under this Agreement is not made when due, the payment shall accrue simple interest from the due date until the date of payment at a per-annum rate of prime (as reported in *The Wall Street Journal* (U.S., Eastern Edition)) plus [***] or the maximum rate allowable by Applicable Law, whichever is less.

10. Intellectual Property

10.1 Ownership of Inventions.

(a) PharmaMar Technology. Nothing in this Agreement shall be deemed to constitute a transfer or assignment of the PharmaMar Technology in existence as of the Effective Date or generated by PharmaMar or its Affiliates or Third Party Partners during the Term (including during the Term of the Original License Agreement). Subject only to the other provisions of this Agreement, PharmaMar Controls and shall continue to Control all aspects of such PharmaMar Technology, including, without limitation, the Prosecution and Maintenance of such PharmaMar Technology without any obligation to Jazz except as provided in Section 10.2.

(b) Specific Inventions. As between the Parties and subject to the terms and conditions of this Agreement, all right, title and interest to Inventions directed solely and specifically to Licensed API or Licensed Product or which are not severable from Licensed API or Licensed Product, but excluding Specific Combination Inventions and Joint Specific Combination Inventions, regardless of which Party's, its Affiliates' or sublicensees' or Third Party Partners' personnel conceived or created or first reduced to practice such Invention (collectively, "**Specific Inventions**"), shall be solely owned by PharmaMar. For clarity, all Specific Inventions and intellectual property rights therein shall be included in the PharmaMar Technology and licensed to Jazz pursuant to the Jazz License.

(c) Specific Combination Inventions. Notwithstanding the provisions of Section 10.1(b), any Inventions directed solely and specifically to any Licensed API or Licensed Product in combination with any Other Active, other than a Joint Specific Combination Invention, shall be deemed a "**Specific Combination Invention**". Specific Combination Inventions shall be owned by PharmaMar. For clarity, Specific Combination Inventions and intellectual property rights therein shall be included in the PharmaMar Technology and licensed to Jazz pursuant to the Jazz License.

(d) Joint Specific Combination Inventions. Notwithstanding the provisions of Section 10.1(b), any Inventions directed solely and specifically to any Licensed API or Licensed Product in combination with any Other Active that is covered by Patent Rights owned by or licensed to Jazz or its Affiliates (a "**Jazz Proprietary Component**") shall be deemed a "**Joint Specific Combination Invention**". Joint Specific Combination Inventions shall be

jointly owned by PharmaMar and Jazz in both Parties' Territories except [***], where Patent Rights covering such Joint Specific Combination Invention shall be solely owned by Jazz ("**Jazz Specific Combination Invention**"). For clarity, PharmaMar's interest in the Joint Specific Combination Inventions and intellectual property rights therein shall be included in the PharmaMar Technology and licensed to Jazz pursuant to the Jazz License. For further clarity, (i) as between the Parties, Jazz (itself or through its Affiliates or Third Parties) shall have the exclusive right to develop, manufacture and commercialize the Jazz Proprietary Component for all uses, including for use with a Licensed API or Licensed Product in the Jazz Territory and the PharmaMar Territory; (ii) nothing herein shall be deemed as a grant of any right to PharmaMar, its Affiliates or Third Party Partners to any Patent Rights or other intellectual property rights owned by or licensed to Jazz or its Affiliates that claim, cover or relate to the Jazz Proprietary Component and are not Joint Specific Combination Inventions; and (iii) nothing herein shall be deemed a grant of any right to Jazz, its Affiliates or Third Parties acting under its authority to Commercialize any Licensed API or Licensed Product in the PharmaMar Territory.

(e) Generic Inventions. Any Invention that is not a Specific Invention, a Specific Combination Invention or a Joint Specific Combination Invention shall be deemed a "**Generic Invention**". Inventorship of Generic Inventions shall be determined in accordance with the rules of inventorship under U.S. patent laws. Any Generic Invention made, conceived, created, generated or first reduced to practice (i) by the personnel of Jazz or its Affiliates or under any agreement between Jazz or its Affiliates or a Third Party with respect to the Licensed Product, independently from the personnel of PharmaMar, its Affiliates and Third Party Partners, shall be solely owned by Jazz (collectively, "**Jazz Generic Inventions**"); (ii) by the personnel of PharmaMar, its Affiliates or Third Party Partners, independently from the personnel of Jazz and its Affiliates and Third Parties acting on Jazz's or its Affiliate's behalf, shall be solely owned by PharmaMar (collectively, "**PharmaMar Generic Inventions**"); and (iii) by personnel of Jazz, its Affiliates or Third Parties under any agreement between Jazz and an Affiliate or a Third Party with respect to the Licensed Product (on one hand) and PharmaMar, its Affiliates or Third Party Partners (on the other), shall be jointly owned by Jazz and PharmaMar (collectively, "**Joint Generic Inventions**"). For clarity, (x) PharmaMar Generic Inventions and intellectual property rights therein and PharmaMar's interest in the Joint Generic Inventions and intellectual property rights therein shall be included in the PharmaMar Technology and licensed to Jazz pursuant to the Jazz License and (y) Jazz Generic Inventions and intellectual property rights therein and Jazz's interest in the Joint Generic Inventions and intellectual property rights therein shall be licensed to PharmaMar pursuant to the PharmaMar License.

(f) Disclosure of Inventions. Each Party shall promptly disclose to the other Party all Inventions made by such Party to which the other Party has rights hereunder, including any invention disclosures, or other similar documents, submitted to it by its employees, agents or independent contractors describing Specific Inventions, Specific Combination Inventions, Joint Specific Combination Inventions, Jazz Generic Inventions, PharmaMar Generic Inventions or Joint Generic Inventions, and shall promptly respond to reasonable request from the other Party for additional information relating to such Inventions.

(g) Assignment; Further Assurances. Jazz hereby assigns to PharmaMar all right, title and interest in and to any Specific Inventions and Specific Combination Inventions. In addition, each Party hereby assigns to the other Party fifty percent (50%) ownership interest of its right, title and interest in any Joint Specific Combination Invention and Joint Generic Invention, as applicable. In accordance with the foregoing, each Party shall execute and shall have its employees execute (and cause its Affiliates and Third Parties, as applicable, to execute) all documents necessary to transfer such rights, title and interest in accordance with this Section 10.1(g). Any remuneration for each Party´s and its Affiliates' employees' inventions shall be solely borne by such Party.

(h) No Accounting. Except as expressly provided otherwise in this Agreement, neither Party shall have any obligation to obtain any approval of the other Party for, nor pay the other Party any share of the proceeds from or otherwise account to the other Party for, the practice, licensing, assignment or other exploitation of Joint Specific Combination Inventions or Joint Generic Inventions and each Party hereby waives any right it may have under the Applicable Laws of any country to require such approval, sharing or accounting.

10.2 Patent Prosecution and Maintenance.

(a) General. Except to the extent expressly specified to the contrary in this Agreement, as between the Parties, each Party shall retain the right to control the prosecution and maintenance of all intellectual property rights Controlled by such Party at such Party's expense, including the Prosecution and Maintenance of Patent Rights. Prosecution and maintenance costs and expenses shall include any prosecution fees, issue fees, maintenance fees and any fees of patent counsels, lawyers, experts and agents involved in the filing, prosecution and maintenance of such intellectual property rights.

(b) PharmaMar Prosecuted Patents. Except as otherwise provided in this Section 10.2(b), PharmaMar shall have the first right, but not the obligation, to control the preparation, filing, prosecution (including any oppositions, interferences, reissue proceedings, reexaminations and post-grant proceedings) and maintenance (such activities collectively, the "**Prosecution and Maintenance**") of PharmaMar Patents (including Joint Generic Patents but excluding Joint Specific Combination Patents) (collectively, the "**PharmaMar Prosecuted Patents**") on a worldwide basis at its own expense, except for Joint Generic Patents, for which expenses shall be shared equally by the Parties. PharmaMar shall provide Jazz reasonable opportunity to review and comment on material issues regarding such PharmaMar Prosecuted Patents in the Jazz Territory (and solely with respect to the Joint Generic Patents, in the PharmaMar Territory), including providing Jazz with copies of all relevant communications to or from any patent authority in the Jazz Territory regarding such PharmaMar Prosecuted Patents (and solely with respect to the Joint Generic Patents, from any patent authority in the PharmaMar Territory), and providing drafts of any material filings or responses to be made to such patent authorities reasonably in advance of the submission of such filings or responses for Jazz's review and comment. PharmaMar shall [***] in connection with the Prosecution and Maintenance of such PharmaMar Prosecuted Patents in the Jazz Territory (and solely with respect to the Joint Generic Patents on a worldwide basis); *provided however* that PharmaMar shall have the sole

and final decision making authority regarding Prosecution and Maintenance of PharmaMar Prosecuted Patents, with no obligation to Jazz whether to file, continue to prosecute, abandon and/or disclaim such Patent Right; *provided further* that if PharmaMar determines in its sole discretion to abandon or not file or maintain a PharmaMar Prosecuted Patents in the Jazz Territory (and solely with respect to the Joint Generic Patents on a worldwide basis), then PharmaMar shall provide Jazz with written notice of such determination sufficiently in advance (but no later than [***] days prior to the date any abandonment of such PharmaMar Prosecuted Patent would become effective or any date that would bar patentability) so that Jazz may, at its discretion, assume and control the Prosecution and Maintenance of such PharmaMar Prosecuted Patents at its own expense and in its own name. In the event that Jazz elects to assume the Prosecution and Maintenance of a PharmaMar Prosecuted Patent as provided for in this Section 10.2(b), PharmaMar shall assign and hereby assigns to Jazz its interest in such PharmaMar Prosecuted Patent without further consideration and such Patent shall thereafter cease to be considered a PharmaMar Patent for all purposes of this Agreement. If Jazz determines in its sole discretion to not contribute any further to the Prosecution and Maintenance of a Joint Generic Patent, then Jazz shall provide PharmaMar with written notice of such determination sufficiently in advance so that PharmaMar may, at its discretion, continue to control the Prosecution and Maintenance of such Joint Generic Patent, but at its sole expense or abandon such Joint Generic Patent. In the event that PharmaMar elects to continue at its sole expense the Prosecution and Maintenance of a Joint Generic Patent, Jazz shall assign and hereby assigns to PharmaMar its interest into such Joint Generic Patent without further consideration and such Joint Generic Patent shall be then deemed to be a PharmaMar Patent for the purposes of this Agreement.

(c) Jazz Prosecuted Patents. Except as otherwise provided in this Section 10.2.(c), Jazz shall have the first right, but not the obligation, to control Prosecution and Maintenance of the Jazz Generic Patents and Joint Specific Combination Patents (collectively, "**Jazz Prosecuted Patents**") on a worldwide basis at its own expense. Jazz shall provide PharmaMar reasonable opportunity to review and comment on material issues regarding such Jazz Prosecuted Patents in the PharmaMar Territory, including providing PharmaMar with copies of all relevant communications to or from any patent authority in the PharmaMar Territory regarding such Jazz Prosecuted Patents, and providing drafts of any material filings or responses to be made to such patent authorities reasonably in advance of the submission of such filings or responses for PharmaMar´s review and comments. Jazz shall [***] in connection with the Prosecution and Maintenance of such Jazz Patents in the PharmaMar Territory, *provided however* that Jazz shall have the sole and final decision making authority regarding Prosecution and Maintenance of Jazz Prosecuted Patents, with no obligation to PharmaMar whether to file, continue to prosecute, abandon and/or disclaim such Patent Right. Notwithstanding the foregoing, and with regard to any Jazz Generic Patent that is being exploited at any time by PharmaMar, its Affiliates or Third Party Partners in relation to the Licensed API or the Licensed Product, if Jazz determines in its sole discretion to abandon or not file or maintain such Jazz Generic Patent in the PharmaMar Territory, then Jazz shall provide PharmaMar with written notice of such determination sufficiently in advance (but no later than [***] days prior to the date any abandonment of such Jazz Prosecuted Patent would become effective or any date that would bar patentability) so that PharmaMar may, at its discretion, assume and control the Prosecution and Maintenance of such Jazz Generic Patent, at its own expense and in its own name and such

Jazz Generic Patent shall be then deemed to be a PharmaMar Patent for the purposes of this Agreement. If Jazz determines in its sole discretion to abandon or not maintain a Joint Specific Combination Invention in the Jazz Territory or the PharmaMar Territory, then Jazz shall provide PharmaMar with written notice of such determination sufficiently in advance so that PharmaMar may, at its discretion, assume and control the Prosecution and Maintenance of such Joint Specific Combination Patent at its sole expense or abandon such Joint Specific Combination Patent. In the event that PharmaMar elects to assume at its sole expense the Prosecution and Maintenance of a Joint Specific Combination Patent, Jazz shall assign and hereby assigns to PharmaMar its interest into such Joint Specific Combination Patent without further consideration and such Joint Specific Combination Patent shall be then deemed to be a PharmaMar Patent for the purposes of this Agreement. For clarity, any such assignment shall not include an assignment, transfer or license to PharmaMar, its Affiliates or Third Party Partners to any Patent Rights or other intellectual property rights owned by or licensed to Jazz or its Affiliates that claim, cover or relate to any Jazz Proprietary Component.

(d) Cooperation in Prosecution. Each Party shall provide the other Party all reasonable assistance and cooperation in the Patent Prosecution and Maintenance efforts provided above in this Section 10, including providing any necessary powers of attorney and executing any other required documents or instruments for such Prosecution and Maintenance consistent with the provisions of this Section 10 above, as well as further actions as set forth below:

(i) The Parties shall respectively Prosecute and Maintain the PharmaMar Prosecuted Patents and Jazz Prosecuted Patents as set forth in this Section 10.2.

(ii) All communications between the Parties relating to the Prosecution or Maintenance of the PharmaMar Prosecuted Patents and Jazz Prosecuted Patents, including copies of any draft or final documents or any communications received from or sent to patent offices or patenting authorities with respect to such Patents, shall be considered Confidential Information of the owner of such Patent (and in case of Joint Patents, Confidential Information of both PharmaMar and Jazz) and subject to the confidentiality provisions of Article 11.

10.3 Patent Term Extensions in the Jazz Territory. The Parties shall coordinate and discuss which of the Patent Rights within the PharmaMar Patents or the Jazz Patents should be selected for patent term extensions (including any pediatric exclusivity extensions as may be available) or supplemental protection certificates or their equivalents in the Jazz Territory (collectively, "**Patent Term Extensions**") with respect to any Licensed Product. Notwithstanding anything to the contrary set forth in Section 10.2, Jazz shall have the right to apply for Patent Term Extensions with respect to any Licensed Product in the Jazz Territory and PharmaMar shall have final decision-making authority with respect to determining which Patent Right is selected for any such Patent Term Extensions in the Jazz Territory. Each Party will cooperate fully with the other in making such filings or actions, for example and without limitation, making available all required regulatory data and other Information and executing any required authorizations to apply for such Patent Term Extension, including PharmaMar appointing Jazz as its agent with respect to any Patent Term Extension of a PharmaMar Patent or

Joint Patent in the Jazz Territory. For clarity, the Parties agree that (i) the costs of obtaining a Patent Term Extension in the Jazz Territory (a) within a PharmaMar Patent (other than a Joint Patent) shall be borne by PharmaMar, (b) within a Jazz Patent (other than a Joint Patent) shall be borne by Jazz and (c) within the Joint Patents shall be shared equally by both Parties, and (ii) the costs of obtaining a Patent Term Extension in the PharmaMar Territory shall be borne by PharmaMar.

10.4 Infringement of Patents by Third Parties.

(a) Notification. Each Party shall promptly notify the other Party in writing within [***] days (except as expressly set forth below) of becoming aware of any alleged existing or threatened infringement by a Third Party of any of the PharmaMar Patents (including Joint Patents) (*"***Infringement***"*), including (x) any such alleged existing or threatened Infringement on account of a Third Party's manufacture, use or sale of Licensed API or Licensed Product, (y) any certification filed in the United States under 21 U.S.C. §355(b)(2) or 21 U.S.C. §355(j)(2) or similar provisions in other jurisdictions in connection with an ANDA (an Abbreviated New Drug Application in the United States or a comparable application for Regulatory Approval under Applicable Law in any country other than the United States) or other NDA for a Licensed Product (a *"***Patent Certification***"*), and (z) any declaratory judgment action filed by a Third Party alleging the invalidity, unenforceability or non-infringement of any of the PharmaMar Patents (a "**Declaratory Judgment**") ((x)-(z), collectively, *"***Competitive Infringement***"*); *provided, however,* that each Party shall notify the other Party of any Patent Certification regarding any PharmaMar Patent that it receives, and provide the other Party with a copy thereof, within [***] days of receipt. Each such notification shall include all evidence in such Party's possession demonstrating such Competitive Infringement. No later than [***] days following receipt by one Party from the other of a notice of existing or threatened Competitive Infringement, the Parties shall consult with each other regarding any actions to be taken with respect to such Competitive Infringement.

(b) PharmaMar Patents.

(i) Jazz Territory. Jazz shall have the first right, but not the obligation, to bring (or defend) and control an appropriate suit or other legal action against any Third Party engaged in any Competitive Infringement of any PharmaMar Patents (including Joint Patents) in the Jazz Territory at Jazz's own expense and by counsel of its own choice. If Jazz does not bring a suit or take other reasonable action ("**Enforcement Action**") to abate any Competitive Infringement of any PharmaMar Patent in the Jazz Territory, within [***] days of either Party providing a notice of existing or threatened Competitive Infringement under Section 10.4(a), then after consultation with Jazz regarding its rationale for electing not to bring an Enforcement Action and after reasonably considering such rationale, PharmaMar shall have the right, at its own expense, to commence or defend any such Enforcement Action.

(ii) PharmaMar Territory. PharmaMar shall have the first right, but not the obligation, to bring (or defend) and control any action or proceeding with respect to Competitive Infringement of a PharmaMar Patent (including Joint Patents) in the PharmaMar Territory, at PharmaMar's own expense and by counsel of its own choice. If PharmaMar does

not bring an Enforcement Action to abate any Competitive Infringement of any Joint Patent in the PharmaMar Territory or to abate any Declaratory Judgment of a PharmaMar Patent (including Joint Patents) in the PharmaMar Territory, and solely if (A) any Third Party that is a Third Party Partner as of the Effective Date does not exercise any enforcement rights they may have in any country of PharmaMar Territory with respect to any PharmaMar Patent under the terms of the corresponding agreement between PharmaMar and such Third Party Partner (as such terms are in effect as of the Effective Date) within the timelines set forth in such agreement or (B) any Third Party that becomes a Third Party Partner after the Effective Date does not exercise any enforcement rights they may have in its specific licensed country(ies) within the PharmaMar Territory with respect to any PharmaMar Patent under the terms of the corresponding agreement between PharmaMar and such Third Party Partner within the timelines set forth in such agreement, in each case, within [***] days of either Party providing a notice of existing or threatened Competitive Infringement under Section 10.4(a) or within [***] days from PharmaMar notice that any Third Party Partner in any country of PharmaMar Territory has decided not to bring such an Enforcement Action, then after consultation with PharmaMar regarding its rationale for electing not to bring an Enforcement Action and after reasonably considering such rationale, Jazz shall have the right, at its own expense, to commence or defend any such Enforcement Action. To the extent not inconsistent with the terms of any Third Party Partner agreement existing as of the Effective Date, PharmaMar shall not allow any Third Party Partner to enforce any Joint Patent in the PharmaMar Territory or the Jazz Territory.

(iii) Cooperation. The Party commencing or defending any Enforcement Action pursuant to this Section 10.4 (the "**Enforcing Party**") shall keep the other Party reasonably informed of the progress of any such Enforcement Action, and such other Party shall have the right to join, but not to control, such action with counsel of its own choice, at its own expense. In any event, the other Party shall reasonably cooperate with the Enforcing Party, including providing information and materials, at the Enforcing Party's request and expense. In the event that the Enforcing Party is unable to initiate or prosecute such action solely in its own name or it is otherwise advisable in order to obtain an effective remedy, the other Party will join, but not control, at the Enforcing Party's request and expense, such action and will execute all documents necessary for the Enforcing Party to initiate litigation and prosecute and maintain such action. In any case, neither Party shall enter into any settlement or compromise of any action under this Section 10.4 which would in any manner alter, diminish, or be in derogation of the other Party's rights under this Agreement without the prior written consent of such other Party, which shall not be unreasonably withheld.

(c) Recovery. Except as otherwise agreed by the Parties in connection with a cost-sharing arrangement, any recovery realized by a Party as a result of any action or proceeding pursuant to this Section 10.4, whether by way of settlement or otherwise, shall be shared in order as follows:

(i) The Enforcing Party shall recoup all of its costs and expenses incurred in connection with such action;

(ii) If the other Party joined such action at its own expense, then, to the extent possible, the other Party shall recover its costs and expenses incurred in connection with such action; and

(iii) The remainder, if any, shall be [***].

10.5 Infringement of Third Party Rights in the Jazz Territory.

(a) Notice. If any Licensed Product manufactured, used or sold by either Party, its Affiliates, or their respective licensees becomes the subject of a Third Party's claim or assertion of infringement of a Patent Right granted by a jurisdiction in either Party's Territory, the Party first having notice of the claim or assertion shall promptly notify the other Party. In the event that either Party notifies the other that it, or its Affiliates, or their respective licensees have become the subject of a Third Party's claim or assertion of infringement of a Patent Right granted in its Territory (any, a "**Defensive Action**"), the Parties shall agree on and enter into a "common interest agreement" wherein such Parties agree to their shared, mutual interest in the outcome of such potential dispute, and thereafter, the Parties shall promptly meet to consider the claim or assertion and the appropriate course of action; *provided* that in the event such Third Party also alleges the invalidity, unenforceability or non-infringement of any of the PharmaMar Patents (including Joint Patents), such allegation or claim shall be handled as a Competitive Infringement.

(b) Defense. The Party subject to such Defensive Action shall have the exclusive right to defend and control the defense of any such Defensive Action using counsel of its own choice, at its expense, *provided* that the provisions of Section 10.4 shall govern the right of such Party to assert a counterclaim of infringement of any PharmaMar Patent (including any Joint Patent). In the event that Jazz is the Party against whom such Defensive Action is brought, if the Third Party Patent Rights are used for the manufacture, use or Commercialization of a Licensed Product in the Jazz Territory, then Jazz will be entitled to withhold up to [***] of royalties otherwise payable with respect to Net Sales of such Licensed Product under Section 8.7(d) and use such withheld royalties to reimburse any and all the legal defense costs, attorneys' fees and liability incurred in such Defensive Action for the period beginning from the date Jazz receives notice of such Defensive Action from the Third Party plaintiff until the date of final non appealable judgment by a court or other body of competent jurisdiction or binding settlement by Jazz of such Defensive Action has been made. Notwithstanding the foregoing, Jazz agrees to withhold only that portion of such royalties as may reasonably be necessary to reimburse amounts in accordance with this Section 10.5. If Jazz is required to pay a royalty or other amount for Third Party Patent Rights that are used for the manufacture, use or Commercialization of a Licensed Product in the Jazz Territory, such amounts may be offset as set forth in Section 8.7(d). The Party in any Defensive Action agrees (i) to keep the other Party reasonably informed of all material developments in connection with any such Defensive Action, (ii) to consult with the other Party regarding the strategy for such Defensive Action and (iii) to [***] input provided by the other Party with respect to the strategy for such Defensive Action.

(c) Each Party shall not settle any Defensive Action that includes any statement that may be used as an admission of invalidity or unenforceability of the PharmaMar Technology or of the Jazz Technology without prior consent of the other Party.

10.6 Patent Oppositions and Other Proceedings.

(a) Third-Party Patent Rights. If either Party desires to initiate an opposition, action for declaratory judgment, nullity action, interference, declaration for non-infringement, reexamination or other attack upon the validity, title or enforceability of a Patent Right owned or controlled by a Third Party and having one or more claims that covers the Licensed API or the Licensed Product, or the manufacture, use, sale, offer for sale or importation of the Licensed API or the Licensed Product (except insofar as such action is a counterclaim to or defense of, or accompanies a defense of, a Third Party's claim or assertion of a Competitive Infringement, in which case the provisions of Section 10.4 shall govern), such Party shall so notify the other Party and the Parties shall promptly confer to determine whether to bring such action or the manner in which to settle such action. If the Parties do not agree otherwise, as between the Parties, (i) PharmaMar shall have the sole right to control such actions at its expense with regard to PharmaMar Prosecuted Patents and (ii) Jazz shall have the sole right to control such actions at its expense with regard to Jazz Prosecuted Patents, and the Party so controlling such action shall keep the other Party reasonably informed with respect thereto.

(b) Parties' Patent Rights. If a PharmaMar Prosecuted Patent in the Jazz Territory, or a Joint Generic Patent anywhere in the world, becomes the subject of any proceeding commenced by a Third Party in connection with an opposition, reexamination request, nullity action, interference or other attack upon the validity, title or enforceability thereof (except insofar as such action is brought by the Third Party in an action for Competitive Infringement, in which case the provisions of Section 10.4 shall govern), then PharmaMar shall control such defense at its own cost. If a Jazz Generic Patent in the Jazz Territory, or a Joint Specific Combination Patent anywhere in the world becomes the subject of any proceeding commenced by a Third Party in connection with an opposition, reexamination request, nullity action, interference or other attack upon the validity, title or enforceability thereof (except insofar as such action is brought by the Third Party in an action for Competitive Infringement, in which case the provisions of Section 10.4 shall govern), then Jazz shall control such defense, at its own cost**.** The controlling Party shall permit the non-controlling Party to participate in the proceeding to the extent permissible under Applicable Law, and to be represented by its own counsel in such proceeding, at the non-controlling Party's expense. If either Party decides that it does not wish to defend against such action, then the other Party shall have the backup right to assume defense of such Third Party action at its own expense.

10.7 Jazz Third Party Agreements. Jazz shall require (and shall cause its Affiliates to require) that any Third Party working in collaboration hereunder is bound by a written agreement containing provisions relating to ownership of Inventions consistent with the terms of Section 10.1 and obligating such Third Party to assign to Jazz (or such Affiliate) all right, title and interest in and to such Inventions developed by such Third Party as a result of any activities relating to Licensed API or Licensed Product to the extent required for Jazz to comply with the

terms of Section 10.1. Upon PharmaMar´s written request, Jazz shall provide to PharmaMar with a copy of any written agreements entered into by Jazz (or its Affiliates) within [***] days from PharmaMar´s request; provided, that Jazz shall have the right to redact confidential information contained in such agreement to the extent disclosure of such terms are not required to verify compliance with the terms of this Agreement.

10.8 [***]. If Jazz (or its Affiliates) [***], PharmaMar shall [***]. Jazz hereby [***]. The [***] arising out of such [***] shall not be [***]. [***] shall be entitled to seek any additional remedies available under Applicable Law or under this Agreement.

10.9 Trademarks.

(a) Selection and Display.

(i) The Parties will consult with each other in good faith regarding the selection or replacement of any product-specific Trademarks for any Licensed Product in the Licensed Indication in the Jazz Territory, and PharmaMar shall have the final approval of all such product-specific Trademarks (collectively, the "**Product Trademarks**"). As of the Restatement Effective Date, PharmaMar has decided to use the Trademark Zepzelca™ set forth on **Exhibit G** for Licensed Products containing lurbinectedin. For clarity, subject to Section 10.9(e), in addition to the word mark Zepzelca™ (or any alternative word Product Trademark), PharmaMar shall also decide at its sole discretion to use with respect to the Commercialization of any Licensed Product certain distinctive colors, figurative marks, combined word/figurative marks, symbols, images, logotypes or other marks and the manner of use thereof which shall also be deemed Product Trademarks, *provided* that the manner of use of such additional marks is consistent with Jazz Standard Trade Dress and Style and are not already in use or otherwise owned by Jazz. Such Trademark shall be the Product Trademark for such Licensed Products unless any Regulatory Authority in the Jazz Territory rejects such name. PharmaMar shall be responsible for the costs and expenses of all legal and market research for selection and testing of the proposed Product Trademarks in the Jazz Territory.

(b) In the event Regulatory Authorities in the Jazz Territory do not approve the registration or use of the elected Trademark as Product Trademark for any Licensed Product, PharmaMar shall decide at its sole discretion any alternative Product Trademark for the Licensed Product in the Jazz Territory. PharmaMar shall have final decision-making rights for any such alternative trademark for the Licensed Product (upon prior consultation with Jazz) at the time any alternative Product Trademark is needed in the Jazz Territory.

(c) PharmaMar will keep Jazz informed of all product-specific Trademarks used by PharmaMar and its Third Party Partners for Licensed Products in the PharmaMar Territory.

(d) Jazz shall use Commercially Reasonable Efforts to display the applicable Product Trademark(s) on all packaging materials, labels and marketing materials for the applicable Licensed Product, *provided* that the Parties acknowledge and agree that final

packaging and label of each Licensed Product is subject to approval by and in compliance with the applicable Regulatory Authority.

(e) Licensed Product(s) shall be sold in the Jazz Territory under the trade name of Jazz; provided, that Jazz shall use Commercially Reasonable Efforts to include PharmaMar's name on the packaging materials, labels and marketing materials for Licensed Products. The Trademarks of Jazz, trade dress, style of packaging, prominence of PharmaMar's name and the like with respect to a Licensed Product in the Jazz Territory may be determined by Jazz in a manner that is consistent with Jazz's standard trade dress and style ("**Jazz Standard Trade Dress and Style**"). The ownership and all goodwill from use of Jazz Standard Trade Dress and Style shall vest in and inure to the exclusive benefit of Jazz.

(f) Grant of License. Subject to the terms and conditions of this Agreement, PharmaMar hereby grants to Jazz an exclusive license under Product Trademarks (with the right to sublicense according to Section 2.1(c)), for its use, consistent with the usage guidelines provided by PharmaMar of such Product Trademarks in writing, in the Jazz Territory for the Commercialization of Licensed Product(s) in accordance with this Agreement. The ownership and all goodwill from the use of the Product Trademarks shall vest in and inure to the exclusive benefit of PharmaMar.

(g) Registration of Trade Marks. PharmaMar (or its designee) shall file, register and maintain at PharmaMar's expense and in PharmaMar's own name (to the extent permitted by Applicable Laws), appropriate registrations for the Product Trademarks in the Jazz Territory. PharmaMar will keep Jazz regularly informed of the progress and status of such filings and provide Jazz with an opportunity to review and comment on any material draft filings related thereto. PharmaMar shall [***] provided by Jazz with respect to such draft filings.

(h) Enforcement.

(i) If either Party becomes aware of any actual or threatened infringement of any Product Trademark or any registration of a proposed Trademark by a Third Party that is similar to a Product Trademark in the Jazz Territory or the PharmaMar Territory, such Party shall promptly notify the other Party in writing. PharmaMar shall maintain an application and publication watch on the U.S. federal trademark registry for Product Trademark used on the Licensed Product in the Jazz Territory and shall promptly appraise Jazz of any Third Party filings for similar marks.

(ii) Jazz shall have the first right, at its own expense, to initiate infringement proceedings or take other appropriate actions against an infringement of any Product Trademark in the Jazz Territory or take appropriate actions with respect to the registration of a proposed Trademark by a Third Party that is similar to a Product Trademark in the Jazz Territory and/or to defend any actions or proceedings involving the Product Trademarks in the Jazz Territory, as the case may be.

(iii) If Jazz does not initiate proceedings or take other appropriate action within [***] days of [***], then PharmaMar shall be entitled, at its own expense, to

initiate infringement proceedings or take other appropriate action against an infringement of a Product Trademark in the Jazz Territory, or to take appropriate actions with respect to the application or registration of a proposed Trademark by a Third Party that is similar to a Product Trademark in the Jazz Territory, or to defend any actions or proceedings involving or affecting a Product Trademark in the Jazz Territory, as the case may be.

(iv) The Party conducting such action shall have full control over the conduct of such action, including settlement thereof; provided, however, that the Party conducting such action may not settle any such action, or make any admissions or assert any position in such action, in a manner that would materially adversely affect the Product Trademarks in the Jazz Territory or the rights or interests of the other Party, without the prior written consent of the other Party, which shall not be unreasonably withheld or delayed.

(v) In any event, the Parties shall keep one another informed of the status of their respective activities regarding any litigation in the Jazz Territory involving a Product Trademark or settlement thereof and shall assist one another and cooperate in any such litigation at the other's reasonable request and expense (including joining as a party plaintiff to the extent necessary and requested by the other Party).

(vi) Jazz and PharmaMar shall recover their respective actual out-of-pocket expenses, or proportionate percentages thereof, associated with any litigation against infringers undertaken pursuant to this Section 10.9(h) or settlement thereof from any resulting recovery made by either Party. Any excess amount of such recovery shall be split [***].

11. Confidentiality

11.1 Confidential Information. Except to the extent expressly authorized by this Agreement, each Party agrees that, during the Term, and for [***] years thereafter, such Party (the *"***Receiving Party***"*) shall keep confidential, and shall not publish or otherwise disclose and shall not use for any purpose other than as expressly provided for in this Agreement, any Information furnished to it by the other Party (the *"***Disclosing Party***"*) pursuant to this Agreement or the Confidentiality Agreement (collectively, *"***Confidential Information***"*). The Receiving Party may use Confidential Information only to the extent required to accomplish the purposes of this Agreement. The Receiving Party shall use at least the same standard of care as it uses to protect proprietary or confidential information of its own (but in no event less than reasonable care) to ensure that its, and its Affiliates', employees, agents, consultants and other representatives (*"***Representatives***"*) do not disclose or make any unauthorized use of the Confidential Information. The Receiving Party shall promptly notify the Disclosing Party upon discovery of any unauthorized use or unauthorized disclosure of the Disclosing Party's Confidential Information.

11.2 Exceptions. Confidential Information shall not include any information which the Receiving Party can prove by competent evidence: (a) is now, or hereafter becomes, through no act or failure to act on the part of the Receiving Party in violation of this Article 11, generally known or available; (b) is known by the Receiving Party or any of its Affiliates at the time of receiving such information, as evidenced by its records; (c) is hereafter furnished to the

Receiving Party or any of its Affiliates by a Third Party, as a matter of right and without restriction on disclosure; or (d) is independently discovered or developed by the Receiving Party or any of its Affiliates, independently of the activities undertaken by the Receiving Party pursuant to this Agreement and without the use or knowledge of Confidential Information of the Disclosing Party.

11.3 Authorized Disclosure. Notwithstanding the provisions of Section 11.1, the Receiving Party may disclose Confidential Information of the Disclosing Party, including the terms of this Agreement, as expressly permitted by this Agreement, or if and to the extent such disclosure is reasonably necessary in the following instances:

(a) filing or prosecuting Patent Rights as permitted by this Agreement;

(b) enforcing such Party's rights under this Agreement and in performing its obligations under this Agreement;

(c) prosecuting or defending litigation as permitted by this Agreement, subject to the final paragraph of this Section 11.3;

(d) complying with applicable court orders, Applicable Laws, rules or regulations, subject to the final paragraph of this Section 11.3;

(e) as determined in the Receiving Party's reasonable discretion, the listing rules of any exchange on which the Receiving Party's securities are traded;

(f) disclosure in Regulatory Filings that the Receiving Party has the right to make under this Agreement;

(g) disclosure to the Receiving Party's Affiliates, to actual or potential Sublicensees and Third Party Partners, and to the Receiving Party's and its Affiliates' and Third Party Partners Representatives who, in each case, have a need to know such information in order for the Receiving Party to exercise its rights or fulfill its obligations under this Agreement, provided, in each case, that any such Affiliate, actual or potential Sublicensee, Third Party Partner or Representative agrees [***]; and

(h) disclosure to Third Parties, including potential Third Party Partners, in connection with due diligence or similar investigations by such Third Parties, and disclosures to potential Third Party investors in confidential financing documents, provided, in each case, that [***].

Notwithstanding the foregoing, in the event the Receiving Party is required to make a disclosure of the Disclosing Party's Confidential Information pursuant to Section 11.3(c) or 11.3(d), it will, except where impracticable, (i) give reasonable advance notice to the Disclosing Party of such disclosure, (ii) use efforts to secure confidential treatment of such information at least as diligent as the Receiving Party would use to protect its own confidential information, but in no event less than reasonable efforts, and (iii) cooperate with any efforts by the Disclosing

Party, at the Disclosing Party's request and expense, to secure confidential treatment of such Confidential Information. Disclosure by the Receiving Party of Confidential Information in accordance with any of the foregoing provisions of this Section 11.3 shall not, in and of itself, cause the information so disclosed to cease to be treated as Confidential Information under this Agreement, except to the extent that, by virtue of disclosure by the Receiving Party in full compliance with this Section 11.3, such information becomes generally known or available.

11.4 Publications. Each Party and its Affiliates shall be free to publish, and to authorize Sublicensees and Third Party Partners to publish, the protocol or results of any preclinical study or clinical trial of a Licensed Product conducted by or on behalf of such Party or its Affiliate or Sublicensee, *provided* that solely with regard to (i) manuscripts, abstracts or other publications of PharmaMar (or its Third Party Partners) regarding Atlantis Trial, SCLC Post-Approval Commitment Studies conducted by PharmaMar and any other Clinical Trial conducted by PharmaMar or on its behalf in the Jazz Territory, or regarding Clinical Trials sponsored by PharmaMar or its Third Party Partners involving the Licensed Product conducted within [***] and (ii) any manuscripts, abstracts or other publications of Jazz (or its Sublicensees) regarding any Development activities conducted by Jazz or on its behalf in Jazz Territory, SCLC Post-Approval Commitment Studies conducted by Jazz and any other Development activity conducted by Jazz in the PharmaMar Territory, the other Party has a reasonable opportunity not less [***] days for abstracts, posters or other presentation materials and [***] days for all other publications prior to the date of publication to review the proposed publication and provide comments; *provided, that*, with respect to publications by Third Parties that are Third Party Partners as of the Effective Date, PharmaMar shall only have an obligation to provide drafts for review and comment in accordance with this Section 11.4 to the extent such Third Party Partner is obligated to provide PharmaMar with such drafts and Jazz's timeline to review and comment shall be consistent with the timelines set forth in the applicable Third Party Partner agreement. If such comments involve a redaction of Confidential Information of such reviewing Party, the publishing Party shall [***]. If such comments involve the identification of patentable material in such proposed publication, the publishing Party shall delay publication for up to [***] days until the appropriate Party seeks patent protection for such information. Any such publication shall acknowledge, as appropriate, the contribution of the other Party, its employees, agents and representatives, or if appropriate.

11.5 Public Announcements.

(a) Press Releases. The Parties shall make a joint public announcement of the execution of this Agreement in the form attached as **Exhibit H,** which shall be issued at a mutually agreed time after the Restatement Effective Date. After release of such press release, neither Party may issue any further press releases without the prior review and approval of the other Party. Notwithstanding the foregoing, each Party shall be free to issue such press releases without the prior review or approval of the other Party, that such Party determines are reasonably necessary to comply with Applicable Laws, including disclosure requirements of the U.S. Securities and Exchange Commission or to Spanish Securities Commission (CNMV-Comisión Nacional del Mercado de Valores), or with the requirements of any stock exchange on which securities issued by such Party is traded. In addition, each Party may make public statements

regarding this Agreement in response to questions by the press, analysts, investors or those attending industry conferences or financial analyst calls, so long as the contents of any such public statement or press release do not reveal non□ public information about the other Party or the terms of the Agreement.

(b) Filing of this Agreement. The Parties shall coordinate in advance with each other in connection with the filing of this Agreement (including redaction of certain provisions of this Agreement) with any securities authority or with any stock exchange on which securities issued by a Party or its Affiliate are traded, and each Party will use reasonable efforts to seek and obtain confidential treatment for the terms proposed to be redacted; *provided* that each Party will ultimately retain control over what terms are disclosed to any securities authority or stock exchange, as the case may be, to the extent such Party determines, on the advice of legal counsel, that disclosure is reasonably necessary to comply with Applicable Laws, including disclosure requirements of the U.S. Securities and Exchange Commission or foreign counterpart, or with the requirements of any stock exchange on which securities issued by a Party or its Affiliates are traded, and provided further that the Parties will use their reasonable efforts to file redacted versions with any governing bodies which are consistent with redacted versions previously filed with any other governing bodies.

11.6 Inside Information.

(a) The Parties agree that certain Confidential Information disclosed by one Party to the other Party under this Agreement may qualify as inside information of such disclosing Party under Article 226 of the Restated Text of the Spanish Securities Market Law, Article 7 of Regulation (EU) 596/2014 of the European Parliament and of the Council dated April 16th 2014 on market abuse ("**Regulation UE 596/2014**"), or other applicable insider dealing, market abuse or similar law and/or equivalent securities market regulations in the Jazz Territory (such laws, "**Inside Information Regulations**" and such information, "**Inside Information**"). To the extent required to comply with Inside Information Regulations, each Party agrees that it shall, unless it receives the prior written consent of the other Party:

(i) not make any use whatsoever at any time of any Inside Information of the other Party except as for the purposes set forth in this Agreement;

(ii) disclose the Inside Information of the other Party only to those persons within its organization which need to access to the Information for the purposes set forth in this Agreement;

(iii) preserve the confidentiality of the Inside Information of the other Party, and take all necessary and reasonable precautions to prevent such information from being accessible to any Third Party;

(iv) comply with any and all obligations and prohibitions set forth in the aforementioned Regulation UE 596/2014 and the supplementary Regulations which develop it and in any other equivalent regulations in the Jazz Territory;

(v) not engage or attempt to engage in insider dealing as provided under Regulation UE 596/2014 or under any other equivalent regulations in the Jazz Territory;

(vi) not recommend that another person or entity engage in insider dealing or induce another person or entity to engage in insider dealing as provided under Regulation UE 596/2014 or under any other equivalent regulations in the Jazz Territory; and

(vii) promptly notify the other Party upon becoming aware of evidence or suspicion of any unauthorized use or disclosure of the Inside Information of the other Party.

(b) In case that any Inside Information of a Party is disclosed to the other Party under this Agreement, such disclosing Party shall specify with particularity which information disclosed is classified as Inside Information and such receiving Party shall appoint a person within its organization responsible for such Insider Information and shall provide all required information about such person to the other Party ("**Contact Person**"). Each Party acknowledges that its company and its Contact Person will be included in an insider list under Article 18.1 of Regulation (UE) 596/2014 (or under equivalent regulations in the Jazz Territory) as soon as Inside Information is disclosed to such Party. Each Party acknowledges the legal and regulatory duties entailed and declare they are aware of the sanctions applicable to insider dealing and unlawful disclosure of Inside Information.

(c) Each Party shall keep a list of all the persons to whom Inside Information of the other Party is disclosed with the content and form that requires Regulation (EU) 596/2014 (or equivalent Applicable Laws in the Jazz Territory) and to make such list available to the other Party upon request. Each Party shall take all reasonable steps to ensure that any person included in an insider list acknowledges in writing the legal and regulatory duties entailed as reflected in this Section 11.6 and is aware of the sanctions applicable to insider dealing and unlawful disclosure of inside information.

(d) The obligations, duties and prohibitions listed in this Section 11.6 with regard to each piece of Inside Information shall remain in force as long as the Inside Information continues to be qualified as inside information under Article 7 of Regulation (EU) 596/2014 (or under equivalent regulations in the Jazz Territory).

(e) Notwithstanding anything to the contrary in this Section 11.6, each Party shall be permitted to make any disclosure required by Applicable Law (including pursuant to regulations of any securities authority or stock exchange) and such disclosure shall not constitute a breach of this Section 11.6.

12. Representations and Warranties

12.1 Mutual Representations and Warranties. Each Party represents and warrants to the other that, as of the Restatement Effective Date: (a) it is duly organized and validly existing under the laws of its jurisdiction of incorporation or formation, and has full corporate or other power and authority to enter into this Agreement and to carry out the provisions hereof; (b) it is duly authorized to execute and deliver this Agreement and to perform its obligations

hereunder, and the person or persons executing this Agreement on its behalf has been duly authorized to do so by all requisite corporate or partnership action; and (c) this Agreement is legally binding upon it, enforceable in accordance with its terms, and does not conflict with any agreement, instrument or understanding, oral or written, to which it is a Party or by which it may be bound, nor violate any material law or regulation of any court, governmental body or administrative or other agency having jurisdiction over it.

12.2 PharmaMar Representations and Warranties. Except as disclosed to Jazz in writing as of the Restatement Effective Date, PharmaMar represents and warrants to Jazz that as of the Restatement Effective Date:

(a) **Exhibit B** attached hereto contains a true and complete list of the PharmaMar Patents existing as of the Restatement Effective Date in the Jazz Territory;

(b) The PharmaMar Patents include all of the Patent Rights owned by or licensed to PharmaMar or its Affiliates that claim or disclose Licensed API or Licensed Product, or the manufacture, use, sale, offer for sale or import of Licensed API or Licensed Product;

(c) PharmaMar (i) has the right to grant the Jazz License; and (ii) except as provided for the EAP Agreement, has not granted to any Third Party any license or other right with respect to Licensed API, Licensed Product or PharmaMar Technology that conflicts with the Jazz License and other rights granted to Jazz herein;

(d) There are no agreements in effect as of the Restatement Effective Date between PharmaMar and a Third Party under which rights with respect to the PharmaMar Technology are licensed to PharmaMar;

(e) No Information [***] is necessary for the manufacture, use, sale, offer for sale or importation of any Licensed API or Licensed Product or is otherwise used by PharmaMar, its Affiliates or Third Party Partners in the manufacture, use, sale, offer for sale or import of any Licensed API or Licensed Product as of the Restatement Effective Date;

(f) PharmaMar is the sole and exclusive owner of all right, title and interest in and to the PharmaMar Patents;

(g) to PharmaMar´s Best Knowledge, the issued and unexpired claims included in the PharmaMar Patents existing as of the Restatement Effective Date are valid and enforceable;

(h) to PharmaMar´s Best Knowledge, no reexamination, interference, invalidity, opposition, nullity or similar claim or proceeding is pending or threatened with respect to any PharmaMar Patent;

(i) to PharmaMar´s Best Knowledge the manufacture, use, sale, offer for sale or import of Licensed API or Licensed Product does not infringe and would not infringe the patent or other intellectual property rights of any Third Party;

(j) PharmaMar has not received any written notice from any Third Party alleging that the manufacture, use, sale, offer for sale or import of Licensed API or Licensed Product does infringe or would infringe the patent or other intellectual property rights of any Third Party;

(k) there are no judgments or settlements against or owed by PharmaMar (or any of its Affiliates) with respect to the PharmaMar Technology, and PharmaMar is not a Party to any legal action, suit or proceeding relating to the PharmaMar Technology, nor has PharmaMar received any written communication from any Third Party, including, without limitation, any Regulatory Authority or other government agency, threatening such action, suit or proceeding;

(l) PharmaMar has made available to Jazz a list with all material data and Information regarding the Licensed Product currently available to PharmaMar and has provided Jazz with copies of any data or Information requested by Jazz during its due diligence process. Such list was and is complete and accurate and all tangible or recorded information and data provided by or on behalf of PharmaMar to Jazz related to Licensed API or Licensed Product on or before the Restatement Effective Date in contemplation of this Agreement was and is true, accurate and complete in all material respects, and PharmaMar has not failed (i) to include in such due diligence list any such information or data related to Licensed API or Licensed Product in its possession and Control that would cause the information and data that has been disclosed to be misleading in any material respect or (ii) to disclose, or failed to cause to be disclosed, any information or data requested by Jazz;

(m) Except with regard to Licensed Product Data obtained from ISS, with respect to patient records and with respect to publication rights under Clinical Trial agreements sponsored by PharmaMar, and with regard to Licensed Product Data obtained from those agreements for the conduct of preclinical and research activities under which no Patent Rights have been obtained as of the Restatement Effective Date, PharmaMar has the right to license pursuant to this Agreement all Licensed Product Data currently in existence and will solely own all Licensed Product Data arising from the Atlantis Trial, provided, that for the purposes of this Section 12.2(m) the definition of "Licensed Product Data" shall be deemed to not be limited to results and data that are Controlled by PharmaMar or its Affiliates;

(n) To PharmaMar´s Best Knowledge, [***] in its manufacture of Bulk Vials pursuant to the [***], and PharmaMar has the right to transfer and license, to Jazz or its designee in accordance with the terms of this Agreement, the manufacturing process currently being used by [***] to manufacture Bulk Vials;

(o) Except for Licensed API and Licensed Products, PharmaMar and its Affiliates are not developing any compound or product for second line treatment SCLC;

(p) All research, manufacture and development of Licensed API and Licensed Products on or before the Restatement Effective Date was conducted in compliance with Applicable Laws;

(q) **Exhibit I** sets forth a complete and accurate list of all Regulatory Filings for Licensed API or Licensed Product in the Jazz Territory filed by PharmaMar or any of its Affiliates or Third Party Partners;

(r) neither PharmaMar nor any of its Affiliates is debarred under the Act or comparable Applicable Laws outside of the United States;

(s) neither PharmaMar nor any of its Affiliates has employed or otherwise used in any capacity, in connection with the development or manufacture of Licensed API or Licensed Product, the services of any person debarred or disqualified under United States law, including 21 U.S.C. §335a, or any foreign equivalent thereof;

(t) Except as for the EAP Agreement, Pharma Mar has not entered into any contract or agreement with any Third Party (including any funding agreement) pursuant to which a Third Party obtained any present or contingent right to commercialize Licensed API or Licensed Product in the Jazz Territory or pursuant to which there are contractual limitations or restrictions on Jazz's right or ability to develop or commercialize Licensed API or Licensed Product in the Jazz Territory; and

(u) Except as for ISS and for those agreements for the conduction of preclinical and research activities under which no Patent Rights have been obtained as of the Restatement Effective Date, Pharma Mar has not entered into any contract or agreement with any Third Party (including any funding agreement) pursuant to which a Third Party generated any Information or Patent Rights pertaining to Licensed API or Licensed Products that PharmaMar does not have the right to exclusively license to Jazz pursuant the Jazz License or to otherwise develop or commercialize Licensed API or Licensed Product in the Jazz Territory.

12.3 Jazz Representations and Warranties. Jazz represents and warrants to PharmaMar that as of the Restatement Effective Date:

(a) neither Jazz nor any of its Affiliates is debarred under the Act or comparable Applicable Laws outside of the United States; and

(b) to Jazz's Best Knowledge, neither Jazz nor any of its Affiliates Controls any Patent Right that claims the Licensed API or the Licensed Product in the form existing on the Restatement Effective Date or the method of manufacturing the Licensed API or Licensed Product used as of the Restatement Effective Date.

12.4 PharmaMar Covenants. In addition to any covenants made by PharmaMar elsewhere in this Agreement, PharmaMar hereby covenants to Jazz during the Term, PharmaMar will not grant any Third Party any license or other right with respect to Licensed API, Licensed Product or PharmaMar Technology in derogation of the Jazz License or the rights granted to Jazz hereunder, except in connection with (i) any ISS supported by PharmaMar, its Affiliates or Third Party Partners pursuant to agreements in effect prior to the Effective Date or (ii) any ISS supported by PharmaMar, its Affiliates or Third Party Partners after the Effective Date in PharmaMar Territory, *provided* that in each case of (i) and (ii), such derogation is limited to the

grant by PharmaMar of a license to conduct the Clinical Trial of the Licensed Product that is the subject of such ISS.

12.5 Mutual Covenants. In addition to any covenants made by it elsewhere in this Agreement, each Party hereby covenants to the other Party that:

(a) neither such Party nor any of its Affiliates will employ or use the services of any Person who is debarred or disqualified under United States law, including 21 U.S.C. §335a, or any foreign equivalent thereof, in connection with activities relating to Licensed API or Licensed Product; and in the event that such Party becomes aware of the debarment or disqualification or threatened debarment or threatened disqualification of any Person providing services to such Party or any of its Affiliates with respect to any activities relating to Licensed API or Licensed Product, such Party will immediately notify the other Party in writing and such Party will cease, or cause its Affiliate to cease (as applicable), employing, contracting with, or retaining any such Person to perform any services relating to Licensed API or Licensed Product;

(b) neither such Party nor any of its Affiliates will, in connection with the exercise of such Party's rights or performance of its obligations under this Agreement, directly or indirectly through Third Parties, pay, promise or offer to pay, or authorize the payment of, any money or give any promise or offer to give, or authorize the giving of anything of value to a public official or entity or other Person for purpose of obtaining or retaining business for or with, or directing business to, any Person, including such Party and its Affiliates, nor will such Party or any of its Affiliates directly or indirectly promise, offer or provide any corrupt payment, gratuity, emolument, bribe, kickback, illicit gift or hospitality or other illegal or unethical benefit to a public official or entity or any other Person in connection with the exercise of such Party's rights or performance of such Party's obligations under this Agreement;

(c) neither such Party nor any of its Affiliates (or any of their respective employees and contractors), in connection with the exercise of such Party's rights or performance of such Party's obligations under this Agreement, shall cause the other Party to be in violation of Anti-Corruption Laws or Export Control Laws; and

(d) such Party shall immediately notify the other Party if such Party has any information or suspicion that there may be a violation of Anti-Corruption Laws or Export Control Laws in connection with the exercise of such Party's rights or performance of such Party's obligations under this Agreement.

12.6 Performance by Affiliates and Contractors. The Parties recognize that each Party may perform some or all of its obligations or exercise some or all of its rights under this Agreement through one or more Affiliates, or Third Party contractors; *provided,* in each case, that (a) none of the other Party's rights hereunder are diminished or otherwise adversely affected as a result of such delegation or contracting, and (b) each such Affiliate and Third Party contractor undertakes in writing obligations of confidentiality and non-use regarding Confidential Information and ownership of Inventions which are substantially the same as those undertaken by the Parties pursuant to Article 11 and Section 10.1; and *provided, further,* that

such Party shall at all times be fully responsible for the performance and payment of such Affiliate or Third Party Contractor.

12.7 Disclaimer. Except as expressly set forth in this Agreement, EACH PARTY EXPRESSLY DISCLAIMS ANY AND ALL WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, VALIDITY OF PATENTS, NON-INFRINGEMENT OF THE INTELLECTUAL PROPERTY RIGHTS OF THIRD PARTIES, OR ARISING FROM A COURSE OF DEALING, USAGE OR TRADE PRACTICES.

13 Term; Termination

13.1 Term. This Agreement shall commence on the Restatement Effective Date and, unless earlier terminated pursuant to this Article 13, shall remain in effect on a Licensed Product-by-Licensed Product and country-by-country basis, until the expiration of the Royalty Term of such Licensed Product in such country (the "**Term**"). This Agreement has been executed by the Parties as of the Restatement Effective Date, with the Parties' mutual intent that on the Restatement Effective Date, the Original License Agreement shall be amended and restated in its entirety as set forth in, and thereupon superseded by this Agreement. For clarity, the terms and conditions of the Original License Agreement apply to the period between the Effective Date and the Restatement Effective Date. Upon the expiration of the Royalty Term for a Licensed Product in a given country, the Jazz License with respect to such Licensed Product in such country shall become royalty-free, fully-paid, irrevocable and perpetual; *provided, that* Jazz shall only have the right to practice the license to the Product Trademarks pursuant to the Trademark License Agreement post expiration of this Agreement in accordance with the terms of Section 13.5(b).

13.2 Unilateral Termination by Jazz. Jazz may terminate this Agreement on a country-by-country basis, in each case for any or no reason (a) in Jazz Canada Territory prior to the achievement of Regulatory Milestone no. 4 pursuant to Section 8.4, upon [***] months written notice to PharmaMar and (b) (i) in the Jazz Canada Territory after achievement of Regulatory Milestone no. 4 pursuant to Section 8.4 and (ii) in the Jazz U.S. Territory any time after the Restatement Effective Date, in each case of (i) and (ii), upon the earlier of (A) completion of any agreed upon transfer of Jazz Technology or Regulatory Filings to PharmaMar pursuant to Section 13.5(c)(i) or (B) [***] after Jazz's written notice to PharmaMar; *provided, however* (x) that Jazz shall not be entitled to exercise unilateral termination right hereunder that would result in a termination effective date (1) during [***] from Effective Date of the Original License Agreement with regard to Jazz U.S. Territory or (2) during the [***] from the Restated Effective Date with regard to Jazz Canada Territory and (y) that Jazz shall not be entitled to exercise unilateral termination right hereunder solely for Jazz U.S. Territory; if Jazz decides to

terminate the Agreement pursuant to this Section 13.2 with respect to the Jazz U.S. Territory, the Agreement shall be terminated for the Jazz Territory in its entirety.

13.3 Termination for Material Breach.

(a) Breach. Subject to Section 13.3(b), each Party shall have the right to terminate this Agreement solely with respect to the country to which such uncured material breach relates upon written notice to the other Party, if such other Party materially breaches its obligations under this Agreement and, after receiving written notice from the non-breaching Party identifying such material breach in reasonable detail, fails to cure such material breach within [***] days from the date of such notice; *provided, that* if such breach is not reasonably capable of cure within such [***]-day period, the breaching Party may submit a reasonable cure plan prior to the end of such [***]-day period, in which case the other Party shall not have the right to terminate this Agreement for so long as the breaching Party is using diligent efforts to implement such cure plan. For clarity, if an uncured material breach pertains to an obligation under this Agreement that was not included in the Original License Agreement, then the non-breaching Party's termination rights pursuant to this Section 13.3(a) for such breach shall be limited to termination of this Agreement with respect to the Jazz Canada Territory.

(b) Disputed Breach. If the alleged breaching Party disputes in good faith the existence or materiality of a breach specified in a notice provided by the other Party in accordance with Section 13.3(a), and such alleged breaching Party provides the other Party notice of such dispute within such [***] day period, then the non-breaching Party shall not have the right to terminate this Agreement under Section 13.3(a) unless and until the arbitrators, in accordance with Article 15.2, has determined that the alleged breaching Party has materially breached the Agreement and that such Party fails to cure such breach within [***] days following such arbitrators' decision. It is understood and agreed that during the pendency of such dispute, all of the terms and conditions of this Agreement shall remain in effect and the Parties shall continue to perform all of their respective obligations hereunder.

13.4 Termination for Bankruptcy. Either Party may terminate this Agreement in its entirety upon written notice to the other Party in the event that (a) a case is commenced by or against such other Party under applicable bankruptcy, insolvency or similar laws, which case, if commenced against (not by) such other Party, is not dismissed within [***] days of the commencement thereof, (b) such other Party files for bankruptcy, reorganization, liquidation, receivership or similar proceedings, (c) such other Party assigns all or a substantial portion of its assets for the benefit of creditors, (d) a receiver or custodian is appointed for such other Party's business, (e) a substantial portion of such other Party's business is subject to attachment or similar process or (f) anything analogous to any of the events described in the foregoing clauses (a) through (f) occurs under the laws of any applicable jurisdiction.

13.5 Effect of Expiration or Termination.

(a) General. Upon any termination (but not expiration) of this Agreement in its entirety, all licenses granted to Jazz and PharmaMar under this Agreement shall terminate. Upon any termination (but not expiration) of this Agreement with respect to one country within

the Jazz Territory but not in its entirety, then such Terminated Territory shall, as of the effective date of such termination, be excluded from the Jazz Territory.

(b) Continued Use of Product Trademarks on Expiration. Upon expiration (but not earlier termination) of this Agreement with respect to either the Jazz U.S. Territory, the Jazz Canada Territory or the Jazz Territory in its entirety ("**Expired Territory**"), Jazz shall have the continued right to Commercialize Licensed Product in such Expired Territory under the Product Trademarks in accordance with the license granted under this Agreement as long as either (i) the Parties execute an agreement pursuant to which Jazz is obligated to pay PharmaMar a running royalty of [***] of all Net Sales of Licensed Product sold by Jazz and its Affiliates and Sublicensees in the Expired Territory after expiration of the Agreement for the continued right to use the Product Trademarks or (ii) the Parties are parties to a commercial supply agreement pursuant to which PharmaMar is the [***] supplier of Licensed Product for Jazz in the Expired Territory. Upon the written request of Jazz, PharmaMar shall negotiate in good faith and execute any such agreement on commercially reasonable terms and conditions.

(c) Termination by PharmaMar Pursuant to Section 13.3 or Section 13.4 or by Jazz Pursuant to Section 13.2. In the event of termination of this Agreement by PharmaMar pursuant to Section 13.3 or Section 13.4, or by Jazz pursuant to Section 13.2, the following provisions shall apply:

(i) Regulatory Materials. Subject to Section 13.5(c)(iii), to the extent permitted by Applicable Laws, Jazz shall promptly but no later than [***] days from termination date, transfer and assign to PharmaMar all Regulatory Filings and Regulatory Approvals for the Licensed Product in the Terminated Territory and, if this Agreement is terminated in its entirety, PharmaMar Territory at Jazz´s sole cost; in addition, Jazz shall promptly provide to PharmaMar a copy of all Regulatory Filings, Regulatory Approvals and other regulatory materials related to the Licensed Product in the Terminated Territory to the extent not previously provided to PharmaMar;

(ii) Jazz License. Jazz hereby grants to PharmaMar, effective only in event of such termination, a perpetual non-exclusive, fully paid-up and royalty-free license (except as set forth in Section 13.5(c)(iii)), with the right to grant and authorize sublicenses (subject to Section 2.8), under Jazz Technology which as of the effective date of termination is necessary for, or is being used by Jazz or its Affiliates or Sublicensees or by PharmaMar, its Affiliates and Third Party Partners in, the development, manufacture or commercialization of any Licensed Product (as defined below), to develop, make, have made, use, sell, offer for sale, have sold, import and otherwise exploit the Licensed API and the Licensed Products in the Terminated Territory and, if this Agreement is terminated in its entirety, the PharmaMar Territory;

(iii) Royalty Obligation. Solely in the event of termination of this Agreement by Jazz pursuant to Section 13.2 and solely with regard to Jazz U.S. Territory (unless in [***]), the rights granted to PharmaMar pursuant to this Section 13.5(c) shall be subject to the Parties agreeing in good faith within [***] days of the effective date of termination on common and customary non-financial conditions for the grant of such rights, *provided, that* the financial

compensation shall be set at a royalty of [***] of Net Sales (applied *mutatis mutandis* to sales by PharmaMar, its Affiliates and (sub)licensees) of Licensed Product sold by PharmaMar, its Affiliates and (sub)licensees in the Terminated Territory. For clarity, this Section 13.6.(c)(iii) shall not apply to Jazz Canada Territory in case of termination of this Agreement by Jazz pursuant to Section 13.2 and no financial compensation shall be paid by PharmaMar hereunder with regard to Jazz Canada Territory;

(iv) Transition Assistance. Jazz shall provide at no cost to PharmaMar (subject to Section 13.5(c)(iii)) such assistance as may be reasonably necessary to transfer or transition over a reasonable period of time to PharmaMar, all then-existing commercial contractual arrangements, that is, or are, necessary or reasonably useful for PharmaMar to commence or continue developing, manufacturing or commercializing the Licensed Products in the Terminated Territory, to the extent Jazz is then performing or having performed such activities, including without limitation transferring, upon request of PharmaMar, any agreements or arrangements with Third Party suppliers or vendors to Develop, manufacture, supply, distribute or sell or otherwise commercialize the Licensed Product in the Terminated Territory. To the extent that any contract between Jazz and a Third Party is not assignable to PharmaMar, then Jazz shall reasonably cooperate with PharmaMar to arrange the provision of such services for a reasonable time and service fee after termination;

(v) Remaining Inventories. In the event this Agreement is terminated in its entirety, PharmaMar shall have the right to purchase from Jazz any and all of the inventory of Licensed API or Licensed Products held by Jazz as of the effective date of such termination at a price equal to Jazz's actual cost to acquire or manufacture such inventory. Promptly after the effective date of such termination, Jazz shall submit to PharmaMar a list of its remaining inventory of Licensed API and Licensed Products and its acquisition cost. PharmaMar shall notify Jazz whether PharmaMar elects to exercise such right within [***] days after receiving notice from Jazz reporting such inventory as of the effective date of such termination. If PharmaMar does not exercise such right, Jazz shall not have the right to sell any remaining inventory in the Jazz Territory and Jazz shall destroy immediately such remaining inventory at its sole expense, providing PharmaMar with a certificate of destruction of such inventory; and

(vi) In the event of termination of this Agreement by PharmaMar pursuant to Section 13.3 or Section 13.4, PharmaMar shall have all rights at law or in equity to pursue damages against Jazz for any uncured material breach.

(d) Termination by Jazz Pursuant to Section 13.3 or Section 13.4. In the event of termination of this Agreement by Jazz pursuant to Section 13.3 or Section 13.4 the following provisions shall apply:

(i) Jazz shall have all rights at law or in equity to pursue damages against PharmaMar for any uncured material breach.

(ii) effective as of such termination, Jazz shall, and it hereby does, grant to PharmaMar, a right of first negotiation, exercisable within [***] days after expiration,

upon commercially reasonable terms and conditions (including payments to Jazz) to be negotiated in good faith by the Parties for up to [***] days from the date of exercise:

(1) to obtain an exclusive, royalty-bearing license, with the right to sublicense through multiple tiers of sublicense, under Jazz Technology which as of the effective date of termination is necessary for, or used by Jazz in, the development, manufacture or commercialization of any Termination Licensed Product (as defined below), solely to Develop, manufacture, have manufactured and Commercialize in the Terminated Territory Licensed Products that are being Developed, manufactured or Commercialized as of the effective date of termination (the "**Termination Licensed Products**"), and to have all such Jazz Technology transferred to PharmaMar; and

(2) to have transferred or assigned to PharmaMar or its designee all Regulatory Filings for Licensed Products in the Licensed Indication in the Terminated Territory held in the name of Jazz or any of its Affiliates.

(iii) In the event this Agreement is terminated in its entirety, PharmaMar shall have the right, but not the obligation, to purchase from Jazz any or all usable inventory of Licensed API and Licensed Product in Jazz's or its Affiliates' possession as of the date of expiration. Such inventory shall be provided at a transfer price equal to Jazz's cost of such inventory (as reflected on Jazz's books and records used to prepare its financial statements), plus freight, insurance, transportation, postage and handling. If PharmaMar elects not to purchase such inventory, Jazz shall have the right to sell in the Jazz Territory such remaining inventory over a period of no greater than [***] months after the effective date of such termination, *provided* that Jazz shall continue to make royalty payments on such sales in accordance with Section 8.7.

13.6 Remedies in Lieu of Termination. If Jazz would otherwise have the right to terminate this Agreement pursuant to Section 13.3, then Jazz may elect, by written notice to PharmaMar, not to terminate this Agreement on the basis of such material breach and to have no further financial obligations under this Agreement (including under Section 8.2, Section 8.4, Section 8.5, Section 8.6 and Section 8.7) solely with regard to the Terminated Territory.

13.7 Accrued Obligations; Survival. Upon any termination or expiration of this Agreement in its entirety, all rights and obligations of the Parties under this Agreement shall terminate, except as expressly provided in this Section 13.7 or elsewhere in this Article 13. Upon any termination or expiration of this Agreement in a Terminated Territory or Expired Territory, as applicable, all rights and obligations of the Parties under this Agreement with regard to such Termination Territory or Expired Territory, as applicable, shall terminate, except as expressly provided in this Section 13.7 or elsewhere in this Article 13. Neither expiration nor any termination of this Agreement shall relieve either Party of any obligation or liability accruing prior to such expiration or termination, nor shall expiration or any termination of this Agreement preclude either Party from pursuing all rights and remedies it may have under this Agreement, at law or in equity, with respect to breach of this Agreement. In addition, upon any termination of this Agreement or expiration of this Agreement, the Parties' rights and obligations under Sections 9.4, 9.5, 10.1, 12.7, 13.1, 13.5, 13.7, 13.8, 13.9, 14.1, 14.2, 14.3,14.4 and Articles 1 (to

the extent used in any surviving provisions), 11 (other than Section 11.4 and Section 11.5), 15 and 16 of this Agreement shall survive expiration or any termination of this Agreement.

13.8 Return of Confidential Information. Within [***] days following the expiration or termination of this Agreement in its entirety, except to the extent that a Party retains a license from the other Party as provided in this Article 13, each Party shall promptly return to the other Party, or delete or destroy, all relevant records and materials in such Party's possession or control containing Confidential Information of the other Party; *provided* that such Party may keep one copy of such materials for archival purposes only subject to Article 11.

13.9 Damages; Relief. Termination of this Agreement shall not preclude either Party from claiming any other damages, compensation or relief that it may be entitled to hereunder as a result of the other Party's breach of this Agreement.

14. Indemnification

14.1 Indemnification by Jazz. Jazz hereby agrees to defend, indemnify and hold harmless PharmaMar, its Affiliates, its and their respective officers, directors, agents, employees, successors and assigns (the "**PharmaMar Indemnitees**"), from and against any and all losses, damages, liabilities, expenses and costs, including reasonable legal expense and attorneys' fees (collectively, "**Losses**"), to which any PharmaMar Indemnitee may become subject as a result of any claim, demand, action or other proceeding by any Third Party (each, a "**Claim**") to the extent such Losses arise out of or relate to: (a) the Development, manufacture, use, handling, storage, import or Commercialization of Licensed API or Licensed Products by or on behalf of Jazz, its Affiliates or Sublicensees (including during the Term of the Original License Agreement); (b) the negligence or willful misconduct of any Jazz Indemnitee; or (c) the breach by Jazz of any warranty, representation, covenant or agreement made by Jazz in this Agreement; except, in each case, to the extent such Losses result from the negligence or willful misconduct of any PharmaMar Indemnitee or the breach by PharmaMar of any warranty, representation, covenant or agreement made by PharmaMar in this Agreement.

14.2 Indemnification by PharmaMar. PharmaMar hereby agrees to defend, indemnify and hold harmless Jazz, its Affiliates and their respective officers, directors, employees, consultants and agents (the *"***Jazz Indemnitees***"*) from and against any and all Losses to which any Jazz Indemnitee may become subject as a result of any Claim to the extent such Losses arise out of or relate to: (a) the development, manufacture, use, handling, storage, import or Commercialization of Licensed API or Licensed Products by or on behalf of PharmaMar, its Affiliates or licensees in the Jazz Territory or PharmaMar Territory prior to the Effective Date or during the Term (including during the Term of the Original License Agreement); (b) the negligence or willful misconduct of any PharmaMar Indemnitee; or (c) the breach by PharmaMar of any warranty, representation, covenant or agreement made by PharmaMar in this Agreement; in each case except to the extent such Losses result from the negligence or willful misconduct of any Jazz Indemnitee or the breach by Jazz of any warranty, representation, covenant or agreement made by Jazz in this Agreement.

14.3 Indemnification Procedures. In the event a Party (the "**Indemnified Party**") seeks indemnification under Section 14.1 or 14.2, it shall inform the other Party (the "**Indemnifying Party**") of a claim as soon as reasonably practicable after it receives notice of the claim (it being understood and agreed, however, that the failure by an Indemnified Party to give notice of a claim as provided in this Section 14.3 shall not relieve the Indemnifying Party of its indemnification obligation under this Agreement except and only to the extent that such Indemnifying Party is actually damaged as a result of such failure to give notice), shall permit the Indemnifying Party to assume direction and control of the defense of the claim (including the right to settle the claim solely for monetary consideration) using counsel reasonably satisfactory to the Indemnified Party, and shall cooperate as requested (at the expense of the Indemnifying Party) in the defense of the claim. If the Indemnifying Party does not assume control of such defense within [***] days after receiving notice of the claim from the Indemnified Party, the Indemnified Party shall control such defense and, without limiting the Indemnifying Party's indemnification obligations, the Indemnifying Party shall reimburse the Indemnified Party for all costs, including reasonable attorney fees, incurred by the Indemnified Party in defending itself within [***] days after receipt of any invoice therefor from the Indemnified Party. The Party not controlling such defense may participate therein at its own expense. The Party controlling such defense shall keep the other Party advised of the status of such action, suit, proceeding or claim and the defense thereof and shall consider recommendations made by the other Party with respect thereto. The Indemnified Party shall not agree to any settlement of such action, suit, proceeding or claim without the prior written consent of the Indemnifying Party, which shall not be unreasonably withheld, delayed or conditioned. The Indemnifying Party shall not agree to any settlement of such action, suit, proceeding or claim or consent to any judgment in respect thereof that does not include a complete and unconditional release of the Indemnified Party from all liability with respect thereto, that imposes any liability or obligation on the Indemnified Party or that acknowledges fault by the Indemnified Party without the prior written consent of the Indemnified Party. If the Parties cannot agree as to the application of Section 14.1 or 14.2 to any claim, pending resolution of the dispute pursuant to Article 15, the Parties may conduct separate defenses of such claims, with each Party retaining the right to claim indemnification from the other Party in accordance with Section 14.1 or 14.2, as applicable, upon resolution of the underlying claim.

14.4 Limitation of Liability. NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, PUNITIVE, OR INDIRECT DAMAGES ARISING FROM OR RELATING TO ANY BREACH OF THIS AGREEMENT, REGARDLESS OF ANY NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS SECTION 14.4 IS INTENDED TO OR SHALL LIMIT OR RESTRICT THE INDEMNIFICATION RIGHTS OR OBLIGATIONS OF ANY PARTY UNDER SECTION 14.1 OR 14.2 OR DAMAGES AVAILABLE FOR BREACH OF ARTICLE 11.

14.5 Insurance. Each Party shall procure and maintain insurance, including comprehensive or commercial general liability insurance (including contractual liability and product liability), in amounts that are commercially reasonable in light of the activities and obligations undertaken by such Party pursuant to this Agreement, which amounts shall be

consistent with normal business practices of prudent companies similarly situated. It is understood that such insurance shall not be construed to create a limit of either Party's liability with respect to its indemnification obligations under this Article 14 or otherwise. Each Party shall provide the other Party with written evidence of such insurance upon request. Each Party shall provide the other Party with written notice at least [***] days prior to the cancellation or non□ renewal of such insurance.

15. Dispute Resolution

15.1 Disputes. It is the objective of the Parties to establish procedures to facilitate the resolution of disputes arising under this Agreement in an expedient manner by mutual cooperation and without resort to litigation. In the event of any disputes, controversies or differences which may arise between the Parties out of or in relation to or in connection with this Agreement (other than disputes arising from the JDC or JCC that are subject to the final decision making authority set forth in Section 3.4(b) and other than disputes that are subject to Third Party resolution as set forth in Section 4.1(a)(ii), Section 4.2(d)(iv), Section 5.4(c)(iv), Section 5.4(c)(v) or Section 15.3, each of which shall be resolved as described therein), including, without limitation, any alleged failure to perform, or breach, of this Agreement, or any issue relating to the interpretation or application of this Agreement (each, a "**Dispute**"), then upon the request of either Party by written notice, the Parties agree to meet and discuss in good faith a possible resolution thereof, which good faith efforts shall include at least one in-person meeting between the Parties' respective Executive Officers. If the matter is not resolved within [***] days following the written request for discussions, either Party may then invoke the provisions of Section 15.2.

15.2 Arbitration.

(a) ICC Arbitration. Any Dispute that is not resolved pursuant to Section 15.1 or required to be resolved in accordance with Section 3.4(b), Section 4.1(a)(ii), Section 4.2(d)(iv), Section 5.4(c)(iv), Section 5.4(c)(v) or Section 15.3, except for a dispute, claim or controversy under Section 15.3, shall be finally settled by arbitration in accordance with the Rules of Arbitration of the International Chamber of Commerce ("**ICC Rules**"). The number of arbitrators shall be three (3), of whom each Party shall appoint one (1). The two arbitrators so appointed will select the third and final arbitrator in accordance with the ICC Rules. The seat of arbitration shall be located in New York, New York, United States. The Parties each consent to the personal jurisdiction of the U.S. federal courts for any case arising out of or otherwise related to this arbitration, its conduct and its enforcement. The language to be used in the arbitral proceedings will be English. Any situation not expressly covered by this Agreement shall be decided in accordance with the ICC Rules.

(b) Decision. The arbitrators shall issue a reasoned opinion following a full comprehensive hearing, no later than [***] months following the selection of the arbitrators as provided for in Section 15.2(a) unless the Parties jointly request an extension or the arbitrators determine, in a reasoned decision that the interest of justice or the complexity of the case requires that such limit be extended.

(c) Award. Any award shall be promptly paid in Dollars free of any tax, deduction or offset; and any costs, fees or taxes incident to enforcing the award shall, to the maximum extent permitted by Applicable Law, be charged against the Party resisting enforcement. Each Party agrees to abide by the award rendered in any arbitration conducted pursuant to this Section 15.2, and agrees that, subject to the Federal Arbitration Act, judgment may be entered in any court of competent jurisdiction and that other courts may award full faith and credit to such judgment in order to enforce such award. The award shall include interest from the date of any damages incurred for breach of this Agreement, and from the date of the award until paid in full, at a rate fixed by the arbitrators.

(d) Costs. Except as set forth in Section 15.2(c), each Party shall bear its own legal fees. The arbitrators shall assess their costs, fees and expenses against the Party losing the arbitration unless they believe that neither Party is the clear loser, in which case the arbitrators shall divide their fees, costs and expenses according to their sole discretion.

(e) Confidentiality. The arbitration proceeding shall be confidential and the arbitrators shall issue appropriate protective orders to safeguard each Party's Confidential Information. Except as required by Applicable Law, no Party shall make (or instruct the arbitrators to make) any public announcement with respect to the proceedings or decision of the arbitrators without prior written consent of the other Party. The existence of any dispute submitted to arbitration, and the award, shall be kept in confidence by the Parties and the arbitrators, except (i) as required in connection with the enforcement of such award, (ii) as otherwise required by Applicable Law or required of a Party to fulfill a legal duty or protect or pursue a legal right, (iii) with the consent of both Parties, (iv) where such information is already in the public domain other than as a result of a breach of this clause, or (v) by order of the arbitrators upon application of a Party.

(f) Survivability. Any duty to arbitrate under this Agreement shall remain in effect and be enforceable after termination of this Agreement for any reason.

15.3 Court Actions. Nothing contained in this Agreement shall deny either Party the right to seek injunctive or other equitable relief, including specific performance, from a court of competent jurisdiction in the context of a *bona fide* emergency or prospective irreparable harm, including with respect to any breach of Article 11 or the ownership provisions of Section 10.1 in order to preserve the status quo pending resolution of the Dispute between the Parties under Sections 15.1 and 15.2, and such an action may be filed and maintained notwithstanding any ongoing discussions between the Parties or any ongoing arbitration proceeding. In addition, either Party may bring an action in any court of competent jurisdiction to resolve disputes pertaining to the validity, construction, scope, enforceability, infringement or other violations of Patent Rights or other intellectual property rights, and no such claim shall be subject to arbitration pursuant to Section 15.2.

16. General Provisions

16.1 Entire Agreement; Amendments. This Agreement, including the Exhibits hereto, and the Supply Agreement, Safety Exchange Agreement and Quality Agreement sets

forth the complete, final and exclusive agreement and all the covenants, promises, agreements, warranties, representations, conditions and understandings between the Parties hereto with respect to the subject matter hereof and supersedes, as of the Restatement Effective Date, all prior and contemporaneous agreements and understandings between the Parties with respect to the subject matter hereof, including the Confidentiality Agreement and the Original License Agreement; *provided* that (a) the Original License Agreement shall have been in effect and shall govern the Parties' rights and obligations with respect to the subject matter of this Agreement between the Effective Date and the Restatement Effective Date; and (b) this Agreement shall govern the Parties' rights and obligations with respect to the subject matter of this Agreement from and after the Restatement Effective Date. The foregoing shall not be interpreted as a waiver of any remedies available to either Party as a result of any breach, prior to the Effective Date, by the other Party of its obligations under the Confidentiality Agreement or the Original License Agreement. There are no covenants, promises, agreements, warranties, representations, conditions or understandings, either oral or written, between the Parties other than as are set forth in this Agreement. No subsequent alteration, amendment, change or addition to this Agreement shall be binding upon the Parties unless reduced to writing and signed by an authorized officer of each Party.

16.2 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of New York, USA, excluding its conflicts of laws principles with the exception of sections 5-1401 and 5-1402 of New York General Obligations Law. Subject to Article 15 above, each Party hereby consents to the venue and jurisdiction of state and federal courts located in the State of New York (U.S.).

16.3 Rights in Bankruptcy.

(a) All rights and licenses granted under or pursuant to this Agreement by PharmaMar to Jazz are, for all purposes of Title 11 of the United States Code ("**Title 11**"), licenses of rights to "intellectual property" as defined in Title 11, and, in the event that a case under Title 11 is commenced by or against PharmaMar, Jazz shall have all of the rights set forth in Section 365(n) of Title 11 to the maximum extent permitted thereby. During the Term, PharmaMar shall create and maintain current copies to the extent practicable of all such intellectual property. Without limiting the Parties' rights under Section 365(n) of Title 11, if a case under Title 11 is commenced by or against PharmaMar, Jazz shall be entitled to a copy of any and all such intellectual property and all embodiments of such intellectual property, and the same, if not in the possession of Jazz, shall be promptly delivered to it (i) before this Agreement is rejected by or on behalf of PharmaMar, within [***] days after Jazz's written request, unless PharmaMar, or its trustee or receiver, elects within [***] days to continue to perform all of its obligations under this Agreement, or (ii) after any rejection of this Agreement by or on behalf of PharmaMar, if not previously delivered as provided under clause (i) above. All rights of the Parties under this Section 16.3 and under Section 365(n) of Title 11 are in addition to and not in substitution of any and all other rights, powers, and remedies that each Party may have under this Agreement, Title 11, and any other Applicable Laws. Jazz shall have the right to perform the obligations of PharmaMar hereunder with respect to such intellectual property, but neither such

provision nor such performance by Jazz shall release PharmaMar from any such obligation or liability for failing to perform it.

(b) The Parties agree that they intend the foregoing Jazz rights to extend to the maximum extent permitted by law and any provisions of applicable contracts with Third Parties, including for purposes of Title 11, (i) the right of access to any intellectual property (including all embodiments thereof) of PharmaMar or any Third Party with whom PharmaMar contracts to perform an obligation of PharmaMar under this Agreement, and, in the case of the Third Party, which is necessary for the Development, Regulatory Approval and manufacture of Licensed Products and (ii) the right to contract directly with any Third Party described in (i) in this sentence to complete the contracted work.

(c) Any intellectual property provided pursuant to the provisions of this Section 16.3 shall be subject to the licenses set forth elsewhere in this Agreement and the payment obligations of this Agreement, which shall be deemed to be royalties for purposes of Title 11.

(d) Notwithstanding anything to the contrary in Article 10, in the event that a case under Title 11 is commenced by or against PharmaMar, Jazz may take appropriate actions in connection with the filing, prosecution, maintenance and enforcement of any PharmaMar Patent Rights in the Jazz Territory licensed to Jazz under this Agreement without being required to consult with PharmaMar before taking any such actions, *provided* that such actions are consistent with this Agreement.

16.4 Assignment. Neither Party may assign or transfer this Agreement or any rights or obligations hereunder without the prior written consent of the other, except that a Party may make such an assignment or transfer without the other Party's consent to its Affiliates or to a Third Party successor to substantially all of the business of such Party to which this Agreement relates, whether in a merger, sale of stock, sale of assets or other transaction. Any permitted assignment shall be binding on the successors of the assigning Party. Any assignment or attempted assignment by either Party in violation of the terms of this Section 16.4 shall be null, void and of no legal effect.

16.5 Force Majeure. Each Party shall be excused from liability for the failure or delay in performance of any obligation under this Agreement by reason of any event beyond such Party's reasonable control, including but not limited to Acts of God, fire, flood, explosion, earthquake, or other natural forces, war, civil unrest, acts of terrorism, accident, destruction, epidemic, pandemic or other casualty, any lack or failure of transportation facilities, any lack or failure of supply of raw materials, any strike or organized labor disturbance, or any other event similar to those enumerated above ("**Force Majeure**"). Such excuse from liability shall be effective only to the extent and duration of the event(s) causing the failure or delay in performance and *provided* that the Party has not caused, in whole or in part, such event(s) to occur. The affected Party shall notify the other Party of such Force Majeure as soon as reasonably practical, and shall promptly undertake all reasonable efforts necessary to cure such Force Majeure.

16.6 Non-Waiver. The failure of a Party to insist upon strict performance of any provision of this Agreement or to exercise any right arising out of this Agreement shall neither impair that provision or right nor constitute a waiver of that provision or right, in whole or in part, in that instance or in any other instance. Any waiver by a Party of a particular provision or right shall be in writing, shall be as to a particular matter and, if applicable, for a particular period of time and shall be signed by such Party.

16.7 Severability. If any one or more of the provisions contained in this Agreement is held invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired thereby, unless the absence of the invalidated provision(s) adversely affects the substantive rights of the Parties. The Parties shall in such an instance use their best efforts to replace the invalid, illegal or unenforceable provision(s) with valid, legal and enforceable provision(s) which, insofar as practical, implement the purposes of this Agreement.

16.8 Further Actions. Each Party agrees to execute, acknowledge and deliver such further instruments, and to do all such other acts, as may be necessary or appropriate in order to carry out the purposes and intent of this Agreement.

16.9 Notices. Any notice to be given under this Agreement must be in writing and delivered either in person, by internationally-recognized express courier, to the Party to be notified at its address(es) given below, or at any address such Party has previously designated by prior written notice to the other. Notice shall be deemed sufficiently given for all purposes upon the earliest of: (a) the date of actual receipt; or (b) if delivered by express courier, the second Business Day the express courier regularly makes deliveries following deposit.

If to Jazz, to:

Jazz Pharmaceuticals Ireland Limited
Fifth Floor, Waterloo Exchange
Waterloo Road, Dublin 4, Ireland
Attention: General Counsel
Fax: [***]

With copy to:
Jazz Pharmaceuticals, Inc.
3170 Porter Drive
Palo Alto, CA 94304
Attention: General Counsel
Fax: [***]

With copy to:
[***]
Attention: Legal Department

If to PharmaMar, to:

PharmaMar SA
Avda. De los Reyes nº 1
28770 Colmenar Viejo, Madrid
Spain
Attn. Business Development, Director
Fax: [***]
E-mail address: [***]

With a copy to:

PharmaMar SA
Avda. De los Reyes nº 1
28770 Colmenar Viejo, Madrid
Spain
Attn. Legal Director – Business
Email: [***]

16.10 Interpretation. The headings of clauses contained in this Agreement preceding the text of the sections, subsections and paragraphs hereof are inserted solely for convenience and ease of reference only and shall not constitute any part of this Agreement, or have any effect on its interpretation or construction. All references in this Agreement to the singular shall include the plural where applicable. The term "including" or "includes" as used in this Agreement means including, without limiting the generality of any description preceding such term, and the word "or" has the inclusive meaning represented by the phrase "and/or." Unless otherwise specified, references in this Agreement to any section shall include all subsections and paragraphs in such Section and references in this Agreement to any subsection shall include all paragraphs in such subsection. All references to days in this Agreement shall mean calendar days, unless otherwise specified. Ambiguities and uncertainties in this Agreement, if any, shall not be interpreted against either Party, irrespective of which Party may be deemed to have caused the ambiguity or uncertainty to exist. This Agreement has been prepared in the English language, and the English language shall control its interpretation. In addition, all notices required or permitted to be given hereunder, and all written, electronic, oral or other communications between the Parties regarding this Agreement shall be in the English language.

16.11 Relationship between the Parties. The Parties' relationship, as established by this Agreement, is solely that of independent contractors. This Agreement does not create any partnership, joint venture or similar business relationship between the Parties. Neither Party is a legal representative of the other Party, and neither Party may assume or create any obligation, representation, warranty or guarantee, express or implied, on behalf of the other Party for any purpose whatsoever.

16.12 No Third Party Rights. The provisions of this Agreement are for the exclusive benefit of the Parties, and no other person or entity shall have any right or claim against any Party by reason of these provisions or be entitled to enforce any of these provisions against any Party.

16.13 HSR Clearance. The Parties acknowledge that the Original License Agreement obtained HSR Clearance on January 21, 2020.

16.14 Personal Data Protection

(a) General. Both Parties undertake to comply with any Applicable Law regarding protection of personal data, including but not limited to the European General Data Protection Regulation 2016/679 of 8 April 2016 ("**GDPR**").

(b) Purpose. The Parties acknowledge that personal data of each Party's officers, agents, Affiliates, partners, employees, subcontractors, consultants, customers, partners, investigators, physicians, and authorities´ staff may become part of data files property of PharmaMar or Jazz, as appropriate, for the only purpose of managing the contractual relationship between the Parties, including regulatory matters, operational matters and financial relationship derived from this Agreement, control of the execution of the activities to be performed by the Parties under this Agreement, contact maintenance and compliance with all Applicable Laws, regulations and codes of practices. Both Parties shall be considered independent data controllers (as that term is defined in the GDPR) of such personal data exchanges according to Applicable Law. The Parties do not operate as joint data controllers.

(c) Recipients. The Parties agree that each Party may transfer personal data of the other Party for the same purpose to the respective Affiliates, Sublicensees, Third Party Partners, each Party's subcontractors and to Regulatory Authorities as provided by Applicable Law.

(d) Legitimation of the treatment of personal data. The Parties agree that the legitimation for the collection, processing and transfer of personal data of the other Party is based in the existing contractual relationship under this Agreement and subsequently once purpose for its collection, processing and transfer has been completed, in the need to comply and/ or verify compliance with contractual and legal obligations and possible liabilities derived from this Agreement. In the case of opposing the processing of personal data, PharmaMar and/or Jazz would not be able to continue maintaining the Agreement, having to make the necessary modifications or even having to cancel it. The maintenance of contact, even by electronic means, on matters relating to the activities to be performed under the Agreement is based on the legitimate interest respectively of both PharmaMar and Jazz.

(e) Limited storage periods. Subject to Applicable Law, each Party may store personal data of the other Party during the Term of the Agreement and thereafter during the time necessary to assure the compliance with any contractual and legal obligation or as necessary to determine any liability of the Parties derived from the contractual relationship and the processing of personal data. In this regard, financial data will be gathered according to

Applicable Laws and regulations in this subject matter - for the time tax and accounting regulations provide such information could be required from Regulatory Authorities, such as tax agencies or courts.

(f) Rights. To the extent a Party receives a request from each of the aforementioned persons in 16.15(b) to exercise his/her rights (including requests of access, rectification, cancellation, portability or/and opposition to his data being processed) under Applicable Law with respect to personal data under the Agreement gathered in PharmaMar or Jazz files, as appropriate, the receiving Party will respond to the extent required under Applicable Law, and each Party shall reasonably cooperate with the other Party to assist the other Party with such required response.

(g) Data Protection Officer. In case of data gathered in PharmaMar files, to execute any of the previously mentioned rights, data subjects must provide written notice in this regard to the Legal Department of PharmaMar to its address at Avda. De los Reyes nº 1, 28770 Colmenar Viejo (Madrid), Spain or by email to dpo@pharmamar.com. Jazz and its staff can access the full information on the privacy and data protection policy on PharmaMar´s website www.pharmamar.com.

In case of data gathered in Jazz´s files, to execute any of the previously mentioned rights, data subjects must provide written notice in this regard to the Privacy Office of Jazz Pharmaceuticals to its address at 3170 Porter Drive, Palo Alto, CA 94303, U.S., or by email to dpo@jazzpharma.com. PharmaMar and its staff can access the privacy statement on Jazz's website www.jazzpharma.com.

(h) Other Obligations. Likewise, PharmaMar and Jazz, as independent data controllers, compromise to:

(i) reasonably cooperate with the other Party to enable such Party to fulfill its obligations under Applicable Laws;

(ii) have in place appropriate technical and organizational measures to protect the personal data against accidental or unlawful destruction or accidental loss, alteration, unauthorized disclosure or access, and which provide a level of security appropriate to the risk represented by the processing and the nature of the data to be protected;

(iii) subject to Applicable Laws, comply with its secrecy obligations with regard to all personal data gathered in their file; this obligation to remain indefinitely in place after the end of this Agreement;

(iv) all personal involved in this Agreement must be aware of the obligation to confidentially and security;

(v) have in place procedures so that any third party they authorize to have access to the personal data, including processors, will respect and maintain the confidentiality and security of the personal data;

(vi) process the personal data for purposes described in this Agreement, and have the legal authority to give the warranties and fulfil the undertakings set out in these clauses;

(vii) to the extent a Party receives a request from supervisory authority with respect to personal data for which another Party is also a data controller, the other Party shall reasonably cooperate with the receiving Party's efforts to respond to such a request;

(viii) to the extent a Party needs to conduct a data protection impact assessment ("**DPIA**"), including prior consultation with a supervisory authority, the other Party shall reasonably cooperate with the Party conducting the DPIA to assist with its completion of the DPIA; and

(ix) in the event that for the performance of activities set forth in this Agreement any Party should provide personal data of natural persons to the other Party, such Party providing such personal data should inform, in advance, to such natural person about the processing of such personal data as contemplated by this Agreement.

16.15 Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original document, and all of which, together with this writing, shall be deemed one instrument. This Agreement may be executed by facsimile or PDF signatures, which signatures shall have the same force and effect as original signatures.

[*Signature page follows.*]

In Witness Whereof, the Parties have duly executed this Amended and Restated License Agreement as of the Restatement Effective Date.

Jazz Pharmaceuticals Ireland Limited	**Pharma Mar S.A.**
By: /s/ Patricia Carr	By: /s/ Jose María Fernandez Sousa-Faro
Name: Patricia Carr	Name: Jose María Fernandez Sousa-Faro
Title: Director	Title: President

Exhibit A

Licensed API

[***]

EXHIBIT B

PharmaMar Patents

[***]

EXHIBIT C

Third Party Partners

[***]

EXHIBIT D

Atlantis Trial Development Plan

[***]

Exhibit E

Sample Royalty Calculation for Jazz Territory

[***]

{3 pages omitted}

Exhibit F

U.S. Co-Promotion Terms

1. [***] will have the right and obligation to provide (a) [***] and (b) [***] (the "**Co-Promotion Activities**"). The [***] will be agreed upon by the JCC as part of the Co-Promotion Plan. Each Party's [***] shall be [***]. Each Party shall [***].

2. The [***] shall be [***].

3. [***] shall [***] in the Jazz U.S. Territory. [***] shall [***] in the Jazz U.S. Territory.

4. To [***], [***] will [***] starting on [***] and ending upon [***].

5. Other terms included in this Agreement shall be *mutatis mutandi* applied to the Co-Promotion Agreement to the extent such terms are applicable to a Co-promotion Agreement.

Exhibit G

Product Trademark

[***]

EXHIBIT H

Press Release

PharmaMar signs an agreement with Jazz Pharmaceuticals for lurbinectedin in Canada

- **PharmaMar is eligible to receive up to US $5 million between the upfront payment and regulatory milestone payments.**
- **PharmaMar is also entitled to receive tiered royalties on future net sales of lurbinectedin in Canada, ranging from high teens to 30% as well as sales milestone payments.**

Madrid, October XXth, 2020. – PharmaMar (MSE:PHM) has announced today that Pharma Mar, S.A. and Jazz Pharmaceuticals Ireland Limited have entered into an amended and restated license agreement of the US lurbinectedin license agreement signed in December 2019 for the purpose of granting Jazz an exclusive license for Zepzelca™ (lurbinectedin) in Canada.

Under the terms of this amended agreement, and with respect to the license granted for Canada, PharmaMar is eligible to receive up to US $5 million between an upfront payment and regulatory milestone payments in Canada.

PharmaMar is also eligible to receive incremental tiered royalties on future net sales of lurbinectedin in Canada, ranging from the high teens up to 30%, in addition to up to US $3 million as potential sales milestone payments. PharmaMar retains production rights for lurbinectedin and will supply the product to Jazz.

The terms of the license agreement signed in December 2019 with respect to the exclusive license granted to Jazz in US (including Jazz´ payment obligations) remain unchanged.

Zepzelca™ (lurbinectedin) was approved by US FDA for the treatment of metastatic Small Cell Lung Cancer on June 15th, 2020, and has been submitted to health agencies in Australia, Switzerland, Israel and Singapore under accelerated approval pathways. PharmaMar and Jazz are working together to determine the lurbinectedin regulatory filing strategy for Canada.

Legal warning

This press release does not constitute an offer to sell or the solicitation of an offer to buy securities, and shall not constitute an offer, solicitation or sale in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of that jurisdiction.

About PharmaMar

Headquartered in Madrid, PharmaMar is a biopharmaceutical company, focused on oncology and committed to research and development which takes its inspiration from the sea to discover molecules with antitumor activity. It is a company that seeks innovative products to provide healthcare professionals with new tools to treat cancer. Its commitment to patients and to research has made it one of the world leaders in the discovery of antitumor drugs of marine origin.

PharmaMar has a pipeline of drug candidates and a robust R&D oncology program. It develops and commercializes Yondelis® in Europe and has other clinical-stage programs under development for several types of solid cancers: Zepzelca™ (lurbinectedin, PM1183), PM184 and PM14. With subsidiaries in Germany, Italy, France, Switzerland, Belgium, Austria and the United States. PharmaMar wholly owns other companies: GENOMICA, a molecular diagnostics company; Sylentis, dedicated to researching therapeutic applications of gene silencing (RNAi). To learn more about PharmaMar, please visit us at www.pharmamar.com.

About lurbinectedin

Lurbinectedin (Zepzelca™), also known as PM1183, is an analog of the marine compound ET-736 isolated from the sea squirt *Ecteinacidia turbinata* in which a hydrogen atom has been replaced by a methoxy group. It is a selective inhibitor of the oncogenic transcription programs on which many tumors are particularly dependent. Together with its effect on cancer cells, lurbinectedin inhibits oncogenic transcription in tumor-associated macrophages, downregulating the production of cytokines that are essential for the growth of the tumor. Transcriptional addiction is an acknowledged target in those diseases, many of them lacking other actionable targets.

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Or please visit our website at www.pharmamar.com

EXHIBIT I

Regulatory Filings in Jazz Territory

[***]

{17 pages omitted}

[*] = Certain portions of this agreement have been the omitted because the omitted portions are both (i) not material and (ii) is the type that the registrant treats as private or confidential.

Exhibit 10.8

Master Manufacturing Services Agreement

October 1, 2015

Table of Contents

MASTER MANUFACTURING SERVICES AGREEMENT

THIS MASTER MANUFACTURING SERVICES AGREEMENT (the "Agreement") is made as of October 1, 2015 (the "**Effective Date**")

B E T W E E N:

PATHEON PHARMACEUTICALS INC.,
a corporation existing under the laws of the State of Delaware

("Patheon"),

- and -

JAZZ PHARMACEUTICALS IRELAND LIMITED,
a corporation existing under the laws of Ireland

("Client").

In consideration of the rights conferred and the obligations assumed herein, and for other good and valuable consideration (the receipt and sufficiency of which are acknowledged by each party), and intending to be legally bound the parties agree as follows:

ARTICLE 1

STRUCTURE OF AGREEMENT AND INTERPRETATION

1.1 Master Agreement.

This Agreement establishes the general terms and conditions under which Patheon or any Affiliate of Patheon may perform Manufacturing Services for Client or any Affiliate of Client, at the manufacturing site where the Affiliate of Patheon resides. This "master" form of agreement is intended to allow the parties, or any of their Affiliates, to contract for the manufacture of multiple Products through Patheon's global network of manufacturing sites through the issuance of site specific Product Agreements without having to re-negotiate the basic terms and conditions contained herein.

1.2 Product Agreements.

This Agreement is structured so that a Product Agreement may be entered into by the parties or their respective Affiliates for Manufacturing Services for a particular Product or multiple Products at a Patheon Manufacturing Site. Each Product Agreement will be governed by the terms and conditions of this Agreement unless the parties to the Product Agreement expressly reference the applicable section of this Agreement and modify its terms in the Product Agreement. Unless otherwise agreed by the parties, each Product Agreement will be in the general form and contain the information set forth in Appendix 1

hereto. The parties intend that, after the parties enter into a Product Agreement with respect to the Client's Xyrem® Product(s), this Agreement and such Product Agreement issued hereunder related to Client's Xyrem® Product(s) will supersede the Manufacturing Services and Supply Agreement between Patheon and Client (as successor in interest to Jazz Pharmaceuticals, Inc.) dated March 13, 2007 as amended.

1.3 Definitions.

The following terms will, unless the context otherwise requires, have the respective meanings set out below and grammatical variations of these terms will have corresponding meanings:

"Act" means the United States Food, Drug and cosmetic Act, as amended from time to time, and the regulations promulgated thereunder;

"**Active Materials**", **"Active Pharmaceutical Ingredients" or "API"** means the materials listed in a Product Agreement on Schedule D;

"**Active Materials Credit Value**" means the value of the Active Materials for certain purposes of this Agreement, as set forth in a Product Agreement on Schedule D;

"**Actual Annual Yield**" or "**AAY**" has the meaning specified in Section 2.2(a);

"**Actual Yearly Volume**" or "**AYV**" for each Product has the meaning specified in the applicable Product Agreement;

"**Affiliate**" means:

(a) a business entity which owns, directly or indirectly, a controlling interest in a party to this Agreement, by stock ownership or otherwise; or

(b) a business entity which is controlled by a party to this Agreement, either directly or indirectly, by stock ownership or otherwise; or

(c) a business entity, the controlling interest of which is, directly or indirectly, under common control with a party to this Agreement;

For this definition, "control" means the ownership of shares carrying at least a majority of the votes for the election of the directors of a corporation;

"Annual Product Review Report" means the annual product review report, which will be prepared by Patheon, as described in Title 21 of the United States Code of Federal Regulations, Section 211.180(e);

"**Annual Report**" means the annual report to the FDA, which is required to be prepared and filed by Client, regarding the Product as described in Title 21 of the United States Code of Federal Regulations, Section 314.81(b)(2);

"**Annual Volume**" means the minimum volume of Product to be manufactured in any Year of this Agreement as set forth in Schedule B;

"**Applicable Laws**" means all applicable federal, state and local laws, rules, regulations and requirements;

"**Authority**" means any governmental or regulatory authority, department, body or agency or any court, tribunal, bureau, commission or other similar body, whether federal, state, provincial, county or municipal;

"Batch" means a specific quantity of Active Material and Components that is intended to have uniform character and quality, within specified limits, and is produced according to a single manufacturing order during the same cycle of manufacture;

"Bill Back Items" means the expenses for all third party supplier fees for the purchase or use of columns, standards, non-standard tooling, non-standard pallets, non-standard PAPR or PPE suits (where applicable) and other project-specific items necessary for Patheon to perform the Manufacturing Services, and which are not included as Components, as may be specified in the Product Agreement for a Product;

"**Breach Notice**" has the meaning specified in Section 8.2(a);

"**Business Day**" means a day other than a Saturday, Sunday or a day that is a statutory holiday in the country where the Manufacturing Site is located, unless another country is specified in the Product Agreement;

"**Capital Equipment Agreement**" means a separate agreement that the parties may enter into that will address responsibility for the purchase of capital equipment and facility modifications that may be required to perform the Manufacturing Services under a particular Product Agreement;

"**cGMPs**" means, as applicable, current good manufacturing practices as described in the laws of the applicable jurisdiction, including without limitation:

(a) Parts 210 and 211 of Title 21 of the United States' Code of Federal Regulations;

(b) EC Directive 2003/94/EC; and

(c) Division 2 of Part C of the *Food and Drug Regulations* (Canada);

together with the latest Health Canada, FDA and EMA guidance documents pertaining to manufacturing and quality control practice, all as updated, amended and revised from time to time;

"Client Intellectual Property" means (a) Intellectual Property possessed, generated or derived by Client before entering into this Agreement and (b) Intellectual Property generated or derived by Patheon while performing any Manufacturing Services or otherwise generated or derived by

Patheon in its business, to the extent this Intellectual Property is specific to, or dependent upon, Client's Active Material or Product or its development, manufacture, use and sale;

"**Client Property**" has the meaning specified in Section 8.5(d);

"**Client Requested Changes**" has the meaning specified in Section 4.4;

"**Client-Supplied Components**" means those Components to be supplied by Client or that have been supplied by Client, as specified in each Product Agreement;

"**Components**" means, collectively, all packaging components, raw materials, ingredients, and other materials (including labels, product inserts and other labelling for the Products) required to manufacture the Products in accordance with the Specifications, other than the Active Materials;

"**Confidential Information**" has the meaning specified in Section 11.1;

"**CTD**" has the meaning specified in Section 7.8(c);

"C-TPAT" has the meaning specified in Section 2.1(f);

"DEA" means the United States Drug Enforcement Administration or its counterparts in other countries;

"**Deficiencies**" have the meaning specified in Section 7.8(d);

"**Deficiency Notice**" has the meaning specified in Section 6.1(a);

"Delivery Date" means the date scheduled for shipment of Product under a Firm Order;

"Disclosing Party" has the meaning specified in Section 11.1;

"**EMA**" means the European Medicines Agency or any successor agency thereto;

"**FDA**" means the United States Food and Drug Administration or any successor agency thereto;

"**Firm Orders**" have the meaning specified in Section 5.1(c);

"**Force Majeure Event**" has the meaning specified in Section 13.7;

"**GST**" has the meaning specified in Section 13.16(a)(ii);

"**Health Canada**" means the section of the Canadian Government known as Health Canada and includes, among other departments, the Therapeutic Products Directorate and the Health Products and Food Branch Inspectorate or any successor agency thereto;

"**Importer of Record**" has the meaning specified in Section 3.2(a);

"**Initial Product Term**" has the meaning specified in Section 8.1;

"**Initial Set Exchange Rate**" means as of the Effective Date of a Product Agreement, the initial exchange rate set forth in the Product Agreement to convert one unit of the billing currency into the Patheon Manufacturing Site local currency, calculated as the daily average interbank exchange rate for conversion of one unit of the billing currency into the Patheon Manufacturing Site local currency during the 90 day period immediately preceding the Effective Date as published by OANDA.com "The Currency Site" under the heading "FxHistory: historical currency exchange rates" at www.OANDA.com/convert/fxhistory;

"**Initial Term**" has the meaning specified in Section 8.1;

"**Intellectual Property**" includes, without limitation, rights in patents, patent applications, formulae, trademarks, trademark applications, trade-names, Inventions, copyrights, industrial designs, and know how;

"**Invention**" means information about any innovation, improvement, development, discovery, computer program, device, trade secret, method, know-how, process, technique or the like, whether or not written or otherwise fixed in any form or medium, regardless of the media on which it is contained and whether or not patentable or copyrightable;

"**Inventory**" means all inventories of Components and work-in-process produced or held by Patheon for the manufacture of the Products but, for greater certainty, does not include the Active Materials;

"**Laws**" means all laws, statutes, ordinances, regulations, rules, by-laws, judgments, decrees or orders of any Authority applicable to the activities hereunder and include, without limitation, cGMPs;

"**Long Term Forecast**" has the meaning specified in Section 5.1(a);

"**Manufacturing Services**" means all of the manufacturing, quality control, quality assurance, stability testing, packaging, and related services, as set forth in this Agreement, required to manufacture Product or Products using the Active Materials, Components, and Bill Back Items;

"**Manufacturing Site**" means the facility owned and operated by Patheon where the Manufacturing Services will be performed as identified in a Product Agreement;

"**Materials**" means all Components and Bill Back Items required to manufacture the Products in accordance with the Specifications, other than the Active Materials;

"**Maximum Credit Value**" means the maximum value of Active Materials that may be credited by Patheon under this Agreement, as set forth in a Product Agreement on Schedule D;

"**Minimum Order Quantity**" means the minimum number of Batches of a Product to be produced during the same cycle of manufacturing as set forth in a Product Agreement on Schedule B;

"**Obsolete Stock**" has the meaning specified in Section 5.2(b);

"**Patheon Competitor**" means a business that derives greater than [*] of its revenues from performing contract pharmaceutical development or commercial manufacturing services;

"Patheon Intellectual Property" means Intellectual Property generated or derived by Patheon in the course of performing the Manufacturing Services which are not related to or derived from the Client's Intellectual Property or specific to, or dependent upon, a Product and which have general application to manufacturing processes or formulation development of drug product or drug delivery. But this definition will not include any Intellectual Property allocated to or assigned to Jazz Pharmaceuticals or any of its Affiliates under any prior agreement entered into with Patheon or any of its Affiliates which will remain the exclusive property of Jazz Pharmaceuticals or its Affiliate;

"**PPI**" has the meaning specified in Section 4.2(a);

"**Patheon Requested Changes**" has the meaning specified in Section 4.4;

"Price" means, with respect to each Product, the price to be charged by Patheon for performing the Manufacturing Services for such Product, and includes the cost of Components (other than Client-Supplied Components), certain cost items as set forth in a Product Agreement on Schedule B, and annual stability testing costs as set forth in a Product Agreement on Schedule C;

"**Product(s)**" means the product(s) listed in a Product Agreement on Schedule A hereto;

"**Product Agreement**" means the document, signed by Patheon and Client or their respective Affiliates and issued under this Agreement generally in the form set forth in Appendix 1 (including Schedules A to D) under which Patheon will perform Manufacturing Services at a particular Manufacturing Site under the terms and conditions hereof;

"**Product Agreement Non-Renewal Notice Period**" will have the meaning specified in Section 8.1;

"**Product Claims**" have the meaning specified in Section 6.3(d);

"**Quality Agreement**" means the agreement between the parties entering a Product Agreement that sets out the quality assurance standards for the Manufacturing Services to be performed by Patheon for Client;

"**Recall**" has the meaning specified in Section 6.2(a);

"**Recipient**" has the meaning specified in Section 11.1;

"**Regulatory Approval**" has the meaning specified in Section 7.8(a);

"**Regulatory Authority**" means the FDA, EMA, and Health Canada and any other foreign regulatory agencies competent to grant marketing approvals for pharmaceutical products including the Products in the Territory;

"**Remediation Period**" has the meaning specified in Section 8.2(a);

"**Representatives**" means a party's directors, officers, employees, agents, consultants, or subcontractors;

"**Required Manufacturing Changes**" has the meaning specified in Section 4.4;

"Resident Jurisdiction" has the meaning specified in Section 13.16(a)(i);

"Set Exchange Rate" means the exchange rate to convert one unit of the billing currency into the Patheon Manufacturing Site local currency for each Year, calculated as the average daily interbank exchange rate for conversion of one unit of the billing currency into the Patheon Manufacturing Site local currency during the full year period (October 1st [preceding year] to September 30th) as published by OANDA.com "The Currency Site" under the heading "FxHistory: historical currency exchange rates" at www.OANDA.com/convert/fxhistory;

"**Shortfall Credit**" has the meaning specified in Section 2.2(b);

"**Specifications**" means the file, for each Product, which is given by Client to Patheon in accordance with the procedures listed in a Product Agreement on Schedule A and which contains documents relating to each Product, including, without limitation:

(a) specifications for Active Materials and Components including approved vendor;

(b) manufacturing specifications, directions, and processes;

(c) storage requirements;

(d) environmental, health and safety information for each Product including material safety data sheets; and

(e) the finished Product specifications, packaging specifications and shipping requirements for each Product;

all as updated, amended and revised from time to time by Client in accordance with the terms of this Agreement;

"**Target Yield**" has the meaning specified in Section 2.2(a);

"**Target Yield Determination Batches**" has the meaning specified in Section 2.2(a);

"**Tax**" or "**Taxes**" have the meaning specified in Section 13.6(a);

"**Technical Dispute**" has the meaning specified in Section 12.2;

"**Territory**" means the geographic area described in a Product Agreement where Products manufactured by Patheon will be distributed by Client;

"**Third Party Rights**" means the Intellectual Property of any third party;

"**VAT**" has the meaning specified in Section 13.16(d);

"**Year**" means in the first year of this Agreement or in the first year of a Product Agreement, the period from the Effective Date up to and including December 31 of the same calendar year, and thereafter will mean a calendar year; and

"**Yearly Forecast Volume**" or "**YFV**" has the meaning specified in Section 4.2.1;

1.4 Currency.

Unless otherwise agreed in a Product Agreement, all monetary amounts expressed in this Agreement are in United States Dollars (USD).

1.5 Sections and Headings.

The division of this Agreement into Articles, Sections, Subsections, an Appendix, Schedules and Exhibits and the insertion of headings are for convenience of reference only and will not affect the interpretation of this Agreement. Unless otherwise indicated, any reference in this Agreement to a Section, Appendix, Schedule or Exhibit refers to the specified Section, Appendix, Schedule or Exhibit

to this Agreement. In this Agreement, the terms "**this Agreement**", "**hereof**", "**herein**", "**hereunder**" and similar expressions refer to this Agreement as a whole and not to any particular part, Section, Appendix, Schedule or Exhibit of this Agreement.

1.6 Singular Terms.

Except as otherwise expressly stated or unless the context otherwise requires, all references to the singular will include the plural and vice versa.

1.7 Appendix 1, Schedules and Exhibits.

Appendix 1 (including the Schedules thereto) and the following Exhibits are attached to, incorporated in, and form part of this Agreement:

Appendix 1	Form of Product Agreement (Including Schedules A to D)
Exhibit A	Technical Dispute Resolution
Exhibit B	[Reserved]
Exhibit C	Quarterly Active Materials Inventory Report
Exhibit D	Report of Annual Active Materials Inventory Reconciliation and Calculation of Actual Annual Yield
Exhibit E	Example of Price Adjustment Due to Currency Fluctuation

ARTICLE 2

PATHEON'S MANUFACTURING SERVICES

2.1 Manufacturing Services.

Patheon will perform the Manufacturing Services for the Territory for the Price set forth in the applicable Product Agreement in Schedules B and C to manufacture Products for Client. Schedule B to a Product Agreement sets forth a list of cost items that are included or not included in the Price for Products; all cost items that are not included in the Price are subject to additional fees to be paid by Client. The Price may be adjusted as set forth in Article 4. Patheon may change the Manufacturing Site for the Products only with the prior written consent of Client. If the parties agree that a minimum percentage of any Product will be manufactured by Patheon, (a) this agreement will be set forth in the applicable Product Agreement; and (b) Client may establish other suppliers as additional manufacturers of each Product and may purchase each Product from these manufacturers, if Patheon does not, or cannot, meet all of Client's Firm Orders for the Product. Patheon will be entitled to any applicable manufacturing tax credits that arise from performing the Manufacturing Services under this Agreement. In performing the Manufacturing Services, Patheon and Client agree that:

(a) Conversion of Active Materials and Components. Patheon will convert each Active Material and the applicable Components into Product, as set forth in the applicable Product Agreement.

(b) Quality Control and Quality Assurance. Patheon will perform the quality control and quality assurance testing specified in the Quality Agreement. Batch review and release to Client will be the responsibility of Patheon's quality assurance group. Unless otherwise set forth in the Quality Agreement, Patheon will perform its batch review and release responsibilities in accordance with Patheon's standard operating procedures. Unless otherwise set forth in the applicable Product Agreement or Quality Agreement, each time Patheon ships Products to Client, it will give Client a certificate of analysis and certificate of compliance including a certification that the Batch has been evaluated by Patheon's Quality Control/Quality Assurance department and that the Product complies with the Specifications and was manufactured in accordance with cGMPs. Patheon will test each Batch of Product to be supplied pursuant to this Agreement in accordance with the methods for the Product set forth in the Specifications before delivery of the Batch to Client. Client reserves the right to test or have tested all Products supplied by Patheon and to reject Product that fails to comply with the applicable Specifications or Product that was not manufactured in accordance with cGMPs or Applicable Laws. Client will have sole responsibility for the release of Products to the market. The form and style of batch documents, including, but not limited to, Batch production records, lot packaging records, equipment set up control, operating parameters, and data printouts, raw material data, and laboratory notebooks are the exclusive property of Patheon. Specific Product related information contained in those Batch documents is Client Property.

(c) Components. Patheon will purchase and test all Components (with the exception of Client-Supplied Components) at Patheon's expense and as required by the Specifications.

But Patheon may agree to test certain Client-Supplied Components as specified in the applicable Product Agreement. Client will have the right to specify the suppliers for the Components but if the supplier is not an approved supplier currently used by Patheon, it will be Client's responsibility to audit and approve the supplier. At Client's request and for an additional fee, Patheon may agree to audit and approve the supplier. Patheon will not change any Specifications or supplier of any Components without the prior written consent of Client.

(d) Active Material. Promptly following receipt of the Active Material to be supplied by Client, Patheon will test (pursuant to test methods and drug specifications to be provided by Client) and approve the Active Material as acceptable for performing Manufacturing Services under this Agreement and the applicable Product Agreement. Unless otherwise agreed in a Product Agreement, Patheon will notify Client in writing within [*] days of receipt of any failure of Active Material unless earlier notice is required by Applicable Law; absent this notice, the Active Material will be deemed to be accepted and approved by Patheon.

(e) Stability Testing. Patheon will conduct stability testing on the Products in accordance with the protocols set out in the Specifications for the fees and at the time periods set out in Schedule C to a Product Agreement. Patheon will not make any changes to these testing protocols or Specifications without prior written consent of Client. Patheon will promptly provide any and all data and results relating to the stability testing upon request by Client. If any Batch of a Product fails or is suspected to fail stability testing, Patheon will notify Client within [*], after which Patheon and Client will jointly determine the proceedings and methods to be undertaken to investigate the cause of the failure, including which party will bear the cost of the investigation. Patheon will not be liable for these costs unless it has failed to perform the Manufacturing Services in accordance with the Specifications and cGMPs. Patheon will give Client all stability test data and results at Client's request.

(f) Packaging and Artwork. Patheon will package the Products in accordance with the Specifications. Client will be responsible for the cost of artwork development. Patheon will determine and imprint the Batch numbers and expiration dates for each Product shipped. The Batch numbers expiration dates, and when agreed upon by the Parties, serial numbers will be affixed on the Products and on the shipping carton of each Product as outlined in the Specifications and as required by cGMPs. Client may, in its sole discretion, make changes to labels, product inserts, and other packaging for the Products. Those changes will be submitted by Client to all applicable Regulatory Authorities and other third parties responsible for the approval of the Products. Client will be responsible for the cost of labelling obsolescence when changes occur, as contemplated in Section 4.4. Patheon's name will not appear on the label or anywhere else on the Products unless: (i) required by any Laws; or (ii) Patheon consents in writing to the use of its name. At least [*] days prior to the Delivery Date of Product for which new or modified artwork is required, Client will provide at no cost to Patheon, final camera ready artwork for all packaging Components to be used in the manufacture of the Product that meet the Specifications. But if this new or modified artwork is required in connection with a Product

launch or is due to changes in safety information or Regulatory Authority requirements, then Patheon will use commercially reasonable efforts to implement the changes to the artwork on an expedited basis. For the avoidance of doubt, the parties acknowledge and agree that Client will be responsible for complying with any and all regulatory requirements for the labeling of the Product.

(g) Active Materials and Client-Supplied Components. If Patheon has advised Client of the scheduled production date, then, at least [*] days before the scheduled production date, Client will deliver the Active Materials and any Client-Supplied Components to the Manufacturing Site [*] (Incoterms 2010), at no cost to Patheon, in sufficient quantity to enable Patheon to manufacture the desired quantities of Product and to ship Product on the Delivery Date. If the Active Materials and/or Client-Supplied Components are not received [*] days before the scheduled production date, Patheon may delay the shipment of Product by the same number of days as the delay in receipt of the Active Materials and/or Client-Supplied Components. But if Patheon is unable to manufacture Product to meet this new shipment date due to prior third party production commitments, Patheon may delay the shipment until a later date as agreed to by the parties. All shipments of Active Material will be accompanied by certificate(s) of analysis from the Active Material manufacturer and Client, confirming the identity and purity of the Active Materials and its compliance with the Active Material specifications. For Active Materials or Client-Supplied Components which may be subject to import or export, Client agrees that it will use reasonable efforts to ensure that its vendors and carriers will comply with applicable requirements of the U.S. Customs and Border Protection Service and the Customs Trade Partnership Against Terrorism ("**C-TPAT**").

(h) Bill Back Items. Bill Back Items will be charged to Client at Patheon's cost plus a [*] handling fee.

(i) Validation Activities (if applicable). Patheon may assist in the development and approval of the validation protocols for analytical methods and manufacturing procedures (including packaging procedures) for the Products. The fees for this service are not included in the Price and will be set out separately in Schedule C to a Product Agreement.

(j) Additional Services. If Client requests services other than those expressly set forth herein or in any Product Agreement (such as qualification of a new packaging configuration or shipping studies, or validation of alternative Batch sizes), Patheon will provide a good faith and reasonable written quote of the fee for the additional services and Client will advise Patheon whether it wishes to have the additional services performed by Patheon. The scope of work and fees will be set forth in a separate statement of work signed by the parties, which will subject to the terms and conditions hereof. The title of this statement of work will reference the applicable Product Agreement and will be numbered sequentially.

2.2 Active Material Yield.

(a) Reporting. Patheon will give Client a monthly inventory report of the Active Materials held by Patheon using the inventory report form set out in Exhibit C, which will contain the following information for the month:

Quantity Received: The total quantity of each Active Material that complies with the applicable Specifications and is received at the applicable Manufacturing Site during the applicable period.

Quantity Dispensed: The total quantity of each Active Material dispensed at the applicable Manufacturing Site during the applicable period. The Quantity Dispensed is calculated by [*]. The Quantity Dispensed will only include Active Materials received and dispensed in commercial manufacturing of Products and, for certainty, will not include any (i) Active Materials that must be retained by Patheon as samples, (ii) Active Materials contained in Product that must be retained as samples, (iii) Active Materials used in testing (if applicable), and (iv) Active Materials received or dispensed in technical transfer activities or development activities during the applicable period, including without

limitation, any regulatory, stability, validation or test Batches manufactured during the applicable period.

Quantity Converted: The total amount of Active Materials contained in the Products manufactured with the Quantity Dispensed (including any additional Products produced in accordance with Section 6.3(a) or 6.3(b)), delivered by Patheon, and not rejected, recalled or returned in accordance with Section 6.1or 6.2. Within [*] days after the end of each Year, Patheon will prepare an annual reconciliation of Active Materials on the reconciliation report form set forth in Exhibit D including the calculation of the "**Actual Annual Yield**" or "**AAY**" for the Product at the Manufacturing Site during the Year. AAY is the percentage of the Quantity Dispensed that was converted to Products and is calculated as follows:

$$\frac{\text{Quantity Converted during the Year}}{\text{Quantity Dispensed during the Year}} \times 100\%$$

After Patheon has produced a minimum of [*] successful commercial production Batches of Product and has produced commercial production Batches for at least [*] at the Manufacturing Site (collectively, the "**Target Yield Determination Batches**"), the parties will work in good faith to agree on the target yield for the Product at the Manufacturing Site (each, a "**Target Yield**"). The Target Yield will be revised annually as agreed by the parties to reflect the actual manufacturing experience.

(b) Shortfall Credit Calculation. The parties will agree in each Product Agreement to a specific Loss Tolerance Percentage, which will be used to calculate whether a shortfall in Active Material yield has occurred. If the Actual Annual Yield falls more than the agreed Loss Tolerance Percentage below the respective Target Yield in a Year, then the shortfall for the Year (the "**Shortfall**") for such Product will be calculated as follows:

[*]

(c) Credit for Shortfall. If there is a Shortfall for a Product in a Year, then Patheon will credit Client's account for the amount of the Shortfall not later than [*] days after the end of the Year. Each credit under this Section 2.2(c) will be summarized on the reconciliation report form set forth in Exhibit D. Upon expiration or termination of a Product Agreement, any remaining credit owing under this Section will be paid to Client. The Annual Shortfall, if any, will be disclosed by Patheon on the reconciliation report form.

(d) Maximum Credit. Patheon's liability for Active Materials calculated in accordance with this Section 2.2 **[for any Product]** in a Year will not exceed, in the aggregate, the Maximum Credit Value set forth in Schedule D to a Product Agreement.

(e) No Material Breach. If Patheon has used commercially reasonable efforts to achieve the Target Yield and if the Actual Yield is not less than 80% of the Target Yield, it will not be a material breach of this Agreement by Patheon under Section 8.2(a) if the Actual Annual Yield is less than the Target Yield.

ARTICLE 3

CLIENT'S OBLIGATIONS

3.1 Payment.

Client will pay Patheon for performing the Manufacturing Services according to the Prices specified in Schedules B and C in a Product Agreement. These Prices may be subject to adjustment under other parts of this Agreement. Client will also pay Patheon for any Bill Back Items.

3.2 Active Materials and Qualification of Additional Sources of Supply.

(a) Client will at its sole cost and expense deliver the Active Materials to Patheon in accordance with Section 2.1(g). If applicable, Patheon and Client will reasonably cooperate to permit the import of the Active Materials to the Manufacturing Site. Client's obligation will include obtaining the proper release of the Active Materials from the applicable Customs Agency and Regulatory Authority. Client or Client's designated broker will be the "**Importer of Record**" for Active Materials imported to the Manufacturing Site. [*] The Active Materials will be held by Patheon on behalf of Client as set forth in this Agreement. Title to the Active Materials will at all times remain the property of Client. Any Active Materials received by Patheon will only be used by Patheon to perform the Manufacturing Services. Client will be responsible for paying for all rejected Product that arises from defects in the Active Materials which could not be reasonably discoverable by Patheon using the test methods set forth in the Specifications.

(b) If Client asks Patheon to qualify an additional source for an Active Material or any Component, Patheon may agree to evaluate the Active Material or Component to be supplied by the additional source to determine if it is suitable for use in the Product. The

parties will agree on the scope of work to be performed by Patheon at Client's cost. For an Active Material, this work at a minimum will include: (i) laboratory testing to confirm the Active Material meets existing specifications; (ii) manufacture of an experimental Batch of Product that will be placed on three months accelerated stability; and (iii) manufacture of a mutually agreed upon number of full-scale validation Batches that will be placed on concurrent stability (one Batch may be the registration Batch if manufactured at full scale). Section 6.1(d) will apply to all Product manufactured using the newly approved Active Material or Component because of the limited material characterization that is performed on additional sources of supply.

(c) If will promptly advise Client if it encounters supply problems, including delays and/or delivery of non-conforming Active Material or Components from a Client designated additional source. Patheon and Client will cooperate to reduce or eliminate any supply problems from these additional sources of supply. Client will be obligated to re-qualify all Client designated sources of supply on an annual basis at its expense and will provide Patheon with copies of these annual re-qualifications. If Patheon agrees to qualify or re-qualify Client designated additional sources of supply on behalf of Client, it will do so at Client's expense.

ARTICLE 4

CONVERSION FEES AND COMPONENT COSTS

4.1 First Year Pricing.

The Price for the first Year will be listed in Schedules B and C in a Product Agreement and will be subject to the adjustments set forth in Sections 4.2 and 4.3. The Price may also be increased or decreased by Patheon at any time upon written notice to Client if there are changes to the underlying manufacturing, packaging or testing assumptions set forth in Schedule B of the Product Agreement that result in an increase or decrease in the cost of performing the Manufacturing Services.

4.2 Price Adjustments – Subsequent Years' Pricing.

After the first Year of the Product Agreement, Patheon may adjust the Price effective January 1st of each Year as follows:

(a) Manufacturing and Stability Testing Costs. For Products manufactured in the United States or Puerto Rico, the conversion component of the Price and the annual stability testing costs may be adjusted to the extent of the preliminary number for any change in the Producer Price Index pcu325412325412 for Pharmaceutical Preparation Manufacturing ("**PPI**") published by the United States Department of Labor, Bureau of Labor Statistics in August of the preceding Year compared to the final number for the same month of the Year prior to that, unless the parties otherwise agree in writing. On or before November 30 of each Year, Patheon will give Client a statement setting forth the calculation for the adjustment to be applied in calculating the Price for the next Year. For Products manufactured outside the United States or Puerto Rico, the conversion component of the

Price and the annual stability testing costs may be adjusted to the extent of the corresponding changes using an inflation index to be agreed by the parties in the applicable Product Agreement.

(b) Component Costs. If Patheon incurs an increase in Component costs during the Year, it may increase the Price for the next Year to pass through the additional Component costs at Patheon's actual cost. [*] On or before November 30 of each Year, Patheon will give Client information about the increase or decrease in Component costs which will be applied to the calculation of the Price for the next Year together with reasonable documentation to demonstrate that the Price increase or decrease is justified. But Patheon will not be required to give information to Client that is subject to obligations of confidentiality between Patheon and its suppliers. Patheon will use commercially reasonable efforts to minimize Component costs.

(c) Pricing Basis. Client acknowledges that the Price in any Year is quoted based upon the Annual Volume specified in Schedule B to each Product Agreement. The Price is subject to change if [*].

[*].On or before November 30 of each Year, Patheon will give Client a statement setting forth the information to be applied in calculating those cost increases for the next Year. But Patheon will not be required to give information to Client that is subject to obligations of confidentiality between Patheon and its suppliers.

(d) Adjustments Due to Currency Fluctuations. If the parties agree in a Product Agreement to invoice in a currency other than the local currency for the Manufacturing Site, Patheon will adjust the Price to reflect currency fluctuations. The adjustment will be calculated after all other annual Price adjustments under this Section 4.2 have been made. The adjustment will proportionately reflect the increase or decrease, if any, in the Set Exchange Rate compared to the Set Exchange Rate established for the prior Year or the Initial Set Exchange Rate, as the case may be. An example of the calculation of the price adjustment (for a Canadian Manufacturing Site invoiced in USD) is set forth in Exhibit E.

(e) Tier Pricing (if specified in a Product Agreement). If the pricing in Schedule B of a Product Agreement is set forth in Annual Volume tiers based upon Client's volume forecasts under Section 5.1(a), the parties will estimate the Price in any Year based on Client's [*] forecast provided pursuant to Section 5.1(a). Within [*] days of the end of each Year, the parties will reconcile the difference which may be payable by either party based on the Actual Ordered Product for the Year. If the Actual Ordered Product for the Year is in a tier with a higher cost than that used to calculate the Price for the Year, Client will pay Patheon the difference owed in accordance with Section 5.5. If the Actual Ordered Product for the year is in a tier with a lower cost than that used by the parties to estimate the Price for the year, Patheon will credit or refund, at Client's option, Client for the overpayment.

(f) For all Price adjustments under this Section 4.2, Patheon will deliver to Client on or before November 30 of each Year a revised Schedule B to the Product Agreement to be effective for Product delivered on or after the first day of the next Year. If in any Year Patheon would

have been entitled to increase the Price based on any of the provisions of this Section 4.2 but Patheon did not exercise its right to do so, then at the expiry of any subsequent Year, Patheon will be entitled to make cumulative adjustments only for Product sold after the expiry of such Year, as set out in Section 4.2 to the extent of any permitted changes for all of the preceding Years since Patheon last adjusted the Price.

4.3 Price Adjustments – Current Year Pricing.

During any Year, the Prices set out in Schedule B of a Product Agreement will be adjusted as follows:

Extraordinary Increases in Component Costs. If, at any time, market conditions result in Patheon's cost of Components being materially greater or less than normal forecasted changes, then the Price may be adjusted for any affected Product to solely to reflect the changes to the Component costs. Unless otherwise agreed in a Product Agreement, changes materially greater or less than normal forecasted increases will have occurred if: (i) the cost of a Component increases or decreases by [*] of the cost for that Component, as set forth in Schedule B to the applicable Product Agreement and subject to any prior adjustments made under Section 4.2(b); or (ii) the aggregate cost for all Components required to manufacture a Product increases or decreases by [*] of the total Component costs for the Product as set forth in Schedule B to applicable Product Agreement and subject to any prior adjustments made under Section 4.2(b). If Component costs have been previously adjusted to reflect an increase or decrease in the cost of one or more Components, the adjustments set out in (i) and (ii) above will operate based on the last cost adjustment for the Components.

For a Price adjustment under this Section 4.3, Patheon will deliver to Client a revised Schedule B to the Product Agreement and budgetary pricing information, adjusted Component costs or other documents reasonably sufficient to demonstrate that a Price adjustment is justified. Patheon will have no obligation to deliver any supporting documents that are subject to obligations of confidentiality between Patheon and its suppliers. The revised Price will be effective for any Product delivered on or after the first day of the month following Client's receipt of the revised Schedule B to the Product Agreement.

4.4 Adjustments Due to Technical Changes or Regulatory Authority Requirements.

For changes to the Specifications or manufacturing processes that are required by Applicable Laws ("**Required Manufacturing Changes**"), Patheon and Client will cooperate in making these changes and use commercially reasonable efforts to implement the changes promptly in a manner that minimizes any effect on the supply hereunder to Client of Product meeting Specifications. All costs associated with Required Manufacturing Changes directly related to the Manufacturing Site will be borne by Patheon. All other costs associated with Required Manufacturing Changes under this Agreement, including, without limitation, obsolete Components, Regulatory Filings, work in process, equipment and Product will be borne by Client. Amendments to the Specifications or the Quality Agreement requested by the Client that are not Required Manufacturing Changes ("**Client Requested Changes**") will only be implemented following a technical and cost review by Patheon and are subject to Client and Patheon reaching agreement as to revisions, if any, to the fees specified in Schedules B or C of the Product

Agreement necessitated by the amendment. Amendments to the Specifications, the Quality Agreement or the Manufacturing Site requested by Patheon that are not Required Manufacturing Changes ("**Patheon Requested Changes**") will only be implemented following the approval of Client, this approval not to be unreasonably withheld, and the costs of the Patheon Requested Changes will be borne by Patheon. If Client accepts a proposed fee change, the proposed change in the Specifications will be implemented, and the fee change will become effective only for those orders of the Product that are manufactured in accordance with the revised Specifications. In addition, for Client Requested Changes, Client agrees to purchase, at Patheon's cost (including all costs incurred by Patheon in connection with the purchase and handling of the Inventory), all Inventory held under the "old" Specifications and purchased or maintained by Patheon in order to fill Firm Orders or in accordance with Section 5.2, to the extent that the Inventory can no longer be utilized under the revised Specifications. Open purchase orders for Components no longer required under any revised Specifications that were placed by Patheon in accordance with this Agreement with suppliers in order to fill Firm Orders or in accordance with Section 5.2 will be cancelled where possible, and where the orders are not subject to cancellation without penalty, will be assigned to and satisfied by Client.

4.5 Multi-Country Packaging Requirements.

If Client decides to have Patheon perform Manufacturing Services for the Product for countries outside the Territory, then Client will inform Patheon of the packaging requirements for each new country and Patheon will prepare a quotation for consideration by Client of any additional costs for Components (other than Client-Supplied Components) and the change over fees for the Product destined for each new country. The agreed additional packaging requirements and related packaging costs and change over fees will be set out in a written amendment to this Agreement.

ARTICLE 5

ORDERS, SHIPMENT, INVOICING, PAYMENT

5.1 Orders and Forecasts.

(a) Long Term Forecast. When each Product Agreement is executed, Client will give Patheon a non-binding [*] year forecast of Client's volume requirements for the Product for each Year during the term of the Product Agreement (the "**Long Term Forecast**"). The Long Term Forecast will thereafter be updated every six months (as of June 1 and December 1) during the Initial Product Term. If Patheon is unable to accommodate any portion of the Long Term Forecast, it will notify Client and the parties will agree on any revisions to the forecast.

(b) Rolling [*] Month Forecast. When each Product Agreement is executed, Client will give Patheon a non-binding [*] month forecast of the volume of Product that Client expects to order in the first [*] months of commercial manufacture of the Product. This forecast will then be updated by Client on or before the [*] day of each month on a rolling forward basis. Client will update the forecast forthwith if it determines that the volumes estimated in the most recent forecast are anticipated to change by more than [*]. The most recent [*] month forecast will prevail over prior forecasts.

(c) Firm Orders. On or before the [*] day of each month Client will issue firm written orders ("**Firm Orders**") for each Product from time to time at Client's discretion to be produced and delivered to Client on a date not less than [*] months from the [*] date of the month immediately following the date that the Firm Order is submitted unless otherwise agreed in a Product Agreement. Firm Orders submitted to Patheon will specify Client's purchase order number, quantities by Product, type of packaging, delivery schedule and any other elements necessary to ensure the timely production and shipment of each Product. The quantities of Product ordered in Firm Orders will be firm and binding on Client. Notwithstanding the foregoing, and subject to the availability of required Components, for each Product, Patheon will permit amendments and substitutions to Firm Orders issued by Client upon prior written notice to Patheon for Product packaging no more than [*] per Year. But Patheon will not accept these amendments or substitutions once manufacturing or packaging has commenced.

(d) Acceptance of Firm Order. Firm Orders placed with Patheon by Client pursuant to the provisions of Section 5.1(b) will be acknowledged by Patheon in writing within [*] days of receipt thereof. Patheon will use commercially reasonable efforts to ensure that all Product ordered by Client in accordance with this Agreement will be shipped in accordance with the delivery dates specified in Client's purchase order but in no event will the actual delivery date be more or less than five days from the date of delivery specified in Client's purchase order. Patheon will notify Client promptly of any significant anticipated delay no later than [*] days prior to the delivery date.

(e) Cancellation of a Firm Order. Client may cancel a Firm Order upon written notice to Patheon within the first [*] days of the firm period if Patheon has not started the manufacturing process under the Firm Order before receipt of the cancellation notice. If Client cancels a Firm Order in any other circumstances, Client will pay Patheon [*] of the Price for the Firm Order.

(f) Controlled Substance Quota Requirements (if applicable). Client will give Patheon the information set forth below for obtaining any required DEA or equivalent agency quotas needed to perform the Manufacturing Services. Patheon will be responsible for management of DEA quota information in accordance with DEA regulations. Patheon and Client will cooperate to communicate the information and to assist each other in DEA information requirements related to the Product as follows: (i) as of [*] for the applicable Product, Client will provide to Patheon the next Year's annual quota requirements for the Product; (ii) as of [*], Client will provide to Patheon any changes to the next Year's quota requirements; (iii) Client will pro-actively communicate any changes to the quota requirements for the then-current Year reasonably in advance of the time for Patheon to file and finalize DEA filings supporting the changes; (iv) upon Patheon receiving the necessary forecast information from Client in order to request additional quota, Patheon will submit to the DEA, on a timely basis, all filings necessary to obtain DEA or equivalent agency quotas for Active Materials and will use commercially reasonable efforts to secure sufficient quota from the DEA so as to achieve Delivery Dates for Product as set forth in applicable purchase orders and forecasts submitted to Patheon by Client or its designee;

and (v) Patheon will not be responsible for DEA's refusal or failure to grant sufficient quota for reasons beyond the reasonable control of Patheon, provided that Patheon has met its obligations above. PATHEON ACKNOWLEDGES THAT TIME IS OF THE ESSENCE IN PERFORMING ITS OBLIGATIONS UNDER THIS PROVISION.

5.2 Reliance by Patheon.

(a) Client understands and acknowledges that Patheon will rely on the Firm Orders and rolling forecasts submitted under Sections 5.1(a), and (b) in ordering the Components (other than Client-Supplied Components) required to meet the Firm Orders. In addition, Client understands that to ensure an orderly supply of the Components, Patheon may want to purchase the Components in sufficient volumes to meet the production requirements for Products during part or all of the forecasted periods referred to in Section 5.1(a) or to meet the production requirements of any longer period agreed to by Patheon and Client. Accordingly, Client authorizes Patheon to purchase Components to satisfy the Manufacturing Services requirements for Products for the first [*] months contemplated in the most recent forecast given by Client under Section 5.1(a). Patheon may make other purchases of Components to meet Manufacturing Services requirements for longer periods if agreed to in writing by the parties. Client will give Patheon written authorization to order Components for any launch quantities of Product requested by Client which will be considered a Firm Order when accepted by Patheon.

(b) Client will reimburse Patheon for the cost of Components ordered by Patheon under Firm Orders or under Section 5.2(a) that are not included in finished Products manufactured for Client within [*] months after the forecasted month for which the purchases have been made (or for a longer period as the parties may agree) or if the Components have expired or are rendered obsolete due to changes in artwork or applicable regulations during the period (collectively, "**Obsolete Stock**"). This reimbursement will include Patheon's cost to purchase and destroy the Obsolete Stock. If any non-expired Components are used in Products subsequently manufactured for Client or in third party products manufactured by Patheon, Client will receive credit for any costs of those Components previously paid to Patheon by Client.

(c) If Client fails to take possession or arrange for the destruction of non-expired Components within [*] months of purchase or, in the case of the delivery of conforming finished Product not accepted by Client within [*] of manufacture, Client will pay Patheon [*] per pallet, per month thereafter for storing the Components or finished Product. Storage fees for Components or Product which contain controlled substances or require refrigeration will be charged at [*] per pallet per month. Storage fees are subject to a one pallet minimum charge per month. Patheon may ship finished Product held by it longer than [*] to the Client at Client's expense on [*] days written notice to the Client.

5.3 Minimum Orders.

Client may only order Manufacturing Services for Batches of Products only in multiples of the Minimum Order Quantities as set out in Schedule B to each Product Agreement.

5.4 Delivery and Shipping.

Delivery of Products will be made [*] (Incoterms 2010) Patheon's shipping point unless otherwise agreed in a Product Agreement. Risk of loss or of damage to Products will remain with Patheon until Patheon loads the Products onto the carrier's vehicle for shipment at the shipping point at which time risk of loss or damage will transfer to Client. Patheon will, in accordance with Client's instructions and as agent for Client, arrange for shipping to be paid by Client. Client will arrange for insurance and will select the freight carrier used by Patheon to ship Products and may monitor Patheon's shipping and freight practices as they pertain to this Agreement. Products will be transported in accordance with the Specifications and Applicable Law.

5.5 Invoices and Payment.

Invoices will be sent by fax or email to the fax number or email address given by Client to Patheon in writing. Unless otherwise agreed in a Product Agreement, invoices will be issued when the Product is manufactured and released by Patheon to Client, and in the case of invoices for stability studies, within [*] days of completion of the applicable study. Patheon will also submit to Client, with each shipment of Products, a duplicate copy of the invoice covering the shipment. Patheon will also provide Client with an invoice covering any Inventory or Components which are to be purchased by Client under Section 5.2 of this Agreement. Each invoice will, to the extent applicable, identify Client's purchase order number, Product numbers, names and quantities, unit price, freight charges, and the total amount to be paid by Client. Unless otherwise agreed in a Product Agreement, Client will pay all invoices within [*] days of the date thereof. If any portion of an invoice is disputed, Client will pay Patheon for the undisputed amount and the parties will use good faith efforts to reconcile the disputed amount as soon as practicable. Any amounts that are disputed by Client will not be due until ten days following the resolution of the dispute. Interest on undisputed past due accounts will accrue at [*] per month which is equal to an annual rate of [*].

ARTICLE 6

PRODUCT CLAIMS AND RECALLS

6.1 Product Claims.

(a) Product Claims. Client has the right to reject any portion of any shipment of Product that deviates from the Specifications or was not manufactured in accordance with cGMPs or Applicable Laws without invalidating any remainder of the shipment. Client or its designee will inspect the Products manufactured by Patheon upon receipt and will use commercially reasonable efforts to give Patheon written notice (a "Deficiency Notice") of all claims for Products that deviate from the Specifications, cGMPs, or Applicable Laws within [*] days after Client's or its designee's receipt thereof (or, in the case of any defects not reasonably susceptible to discovery upon receipt of the Product, within [*] days after discovery by Client, but not after the expiration date of the Product). Should Client fail to give Patheon the Deficiency Notice within the applicable period, then the delivery will be deemed to have been accepted by Client on the [*] day after delivery or discovery, as applicable. Patheon will have no liability for any deviations for which it has not received notice within the applicable period.

(b) Determination of Deficiency. Upon receipt of a Deficiency Notice, Patheon will have [*] days to advise Client by notice in writing that it disagrees with the contents of the Deficiency Notice. If

Client and Patheon fail to agree within [*] days after Patheon's notice to Client as to whether any Products identified in the Deficiency Notice deviate from the Specifications, cGMPs, or Applicable Laws, then the parties will mutually select an independent laboratory to evaluate if the Products deviate from the Specifications, cGMPs, or Applicable Laws. This evaluation will be binding on the parties. If the evaluation certifies that any Products deviate from the Specifications, cGMPs, or Applicable Laws, Client may reject those Products in the manner contemplated in this Section 6.1 and Patheon will be responsible for the cost of the evaluation. If the evaluation does not so certify for any of the Products, then Client will be deemed to have accepted delivery of the Products on the [*] day after delivery (or, in the case of any defects not reasonably susceptible to discovery upon receipt of the Product, on the [*] day after discovery thereof by Client, but not after the expiration date of the Product) and Client will be responsible for the cost of the evaluation.

(c) Shortages. If there is a shortage of Product in any shipment by Patheon, at Client's election, Patheon will use its commercially reasonable efforts to make up the shortage at the next scheduled delivery date. But if the shortage is more than [*] of the quantity ordered for any individual package configuration, Patheon will use its commercially reasonable efforts to make up the shortage as soon as practical after the shortage is reported to Patheon, but no later than [*] days thereafter.

(d) Product Rejection for Finished Product Specification Failure. Internal process specifications will be defined and agreed upon. If Patheon manufactures Product in accordance with the agreed upon process specifications, the batch production record, and Patheon's standard operating procedures for manufacturing, and a batch or portion of batch of Product does not meet a finished Product specification, Client will pay Patheon the applicable fee per unit for the non-conforming Product. The API in the non-conforming Product will be included in the "Quantity Converted" for purposes of calculating the "Actual Annual Yield" under Section 2.2(a). For avoidance of doubt, any dispute arising with respect to this Section shall be resolved in accordance with Section 12.2.

6.2 Product Recalls and Returns.

(a) Records and Notice. Patheon and Client will each maintain records necessary to permit a Recall of any Products delivered to Client or customers of Client. Each party will notify the other by telephone (to be confirmed in writing) within [*] of any information which might affect the marketability, safety or effectiveness of the Products or which might result in the Recall or seizure of the Products. Upon receiving this notice or upon this discovery, each party will stop making any further shipments of any Products in its possession or control until a decision has been made whether a Recall or some other corrective action is necessary. The decision to initiate a Recall or to take some other corrective action, if any, will be made and implemented by Client. "**Recall**" will mean any action (i) by Client to recover title to or possession of quantities of the Products sold or shipped to third parties (including, without limitation, the voluntary withdrawal of Products from the market); or (ii) by any regulatory authorities to detain or destroy any of the Products. Recall will also include any action by either party to refrain from selling or shipping quantities of the Products to third parties which would be subject to a Recall if sold or shipped.

(b) Recalls. If (i) any Regulatory Authority issues a directive, order or, following the issuance of a safety warning or alert about a Product, a written request that any Product be Recalled, (ii) a court of competent jurisdiction orders a Recall, or (iii) Client determines that any Product should be Recalled or

that a "Dear Doctor" letter is required relating the restrictions on the use of any Product, Patheon will co-operate as reasonably required by Client, having regard to all applicable laws and regulations.

(c) Product Returns. Client will have the responsibility for handling customer returns of the Products. Patheon will give Client any assistance that Client may reasonably require to handle the returns.

6.3 Patheon's Responsibility for Defective and Recalled Products.

(a) Defective Product. If Client rejects Products under Section 6.1 and the deviation is determined to have arisen from Patheon's failure to provide the Manufacturing Services in accordance with the Specifications, cGMPs, or Applicable Laws, Patheon will credit Client's account for Patheon's invoice price for the defective Products. If Client previously paid for the defective Products, Patheon will promptly, at Client's election, either: (i) refund the invoice price for the defective Products; (ii) offset the amount paid against other amounts due to Patheon hereunder; or (iii) replace the Products with conforming Products, without Client being liable for payment therefor under Section 3.1, contingent upon the receipt from Client of all Active Materials and Client-Supplied Components required for the manufacture of the replacement Products. If the defective Products were manufactured using Client-Supplied Components, then Patheon will, as determined by Client, (i) refund the value of these Client-Supplied Components to Client or (ii) offset the amount paid against other amounts due to Patheon hereunder. For greater certainty, Patheon's responsibility for any loss of Active Materials in defective Product will be captured and calculated in the Active Materials Yield under Section 2.2 and Client will receive a Shortfall Credit in connection therewith.

(b) Recalled Product. To the extent a Recall or return results from, or arises out of, a failure by Patheon to perform the Manufacturing Services in accordance with the Specifications, cGMPs, or Applicable Laws, Patheon will be responsible for the documented out-of-pocket expenses of the Recall or return and will use its commercially reasonable efforts to replace the Recalled or returned Products with new Products, contingent upon the receipt from Client of all Active Materials and Client-Supplied Components required for the manufacture of the replacement Products. For greater certainty, Patheon's responsibility for any loss of Active Materials in Recalled Product will be captured and calculated in the Active Materials Yield under Section 2.2. If Patheon is unable to replace the Recalled or returned Products (except where this inability results from a failure to receive the required Active Materials and Client-Supplied Components due to the fault of Client), then at Client's request, Patheon will reimburse Client for the price that Client paid to Patheon for Manufacturing Services for the affected Products. Patheon will also be responsible for investigating all Recalls and returns (other than as a result of the expiration of the Product) resulting from Patheon's failure to manufacture the Product in accordance with the Specifications, cGMPs, or Applicable Laws, at its own expense and Patheon will promptly report to Client in writing the results of this investigation. In all other circumstances, Recalls, returns, or other corrective actions will be made at Client's cost and expense.

(c) Except as set forth in Sections 6.3(a) and (b) above, Patheon will not be liable to Client nor have any responsibility to Client for any deficiencies in, or other liabilities associated with, any Product manufactured by it in accordance with this Agreement, (collectively, "**Product Claims**"). For greater certainty but not limitation, except as set forth in Sections 6.3(a) and (b) above, Patheon will have no obligation for any Product Claims to the extent the Product Claim (i) is caused by deficiencies in the

Specifications, the safety, efficacy, or marketability of the Products or any distribution thereof after delivery in accordance with Section 5.4, (ii) results from a defect in a Component that is not reasonably discoverable by Patheon using the test methods set forth in the Specifications prior to use of the applicable Component in the performance of the Manufacturing Services, (iii) results from a defect in the Active Materials, Client-Supplied Components or Components supplied by a Client designated additional source that is not reasonably discoverable by Patheon using the test methods set forth in the Specifications, (iv) is caused by actions of third parties occurring after the Product is shipped by Patheon under Section 5.4, (v) is due to packaging design or labelling defects or omissions for which Patheon has no responsibility, (vi) is due to any unascertainable reason despite Patheon having performed the Manufacturing Services in accordance with the Specifications, cGMPs, and Applicable Laws, or (vii) is due to any breach by Client of its obligations under this Agreement.

6.4 Disposition of Defective or Recalled Products.

Client will not dispose of any damaged, defective, returned, or Recalled Products for which it intends to assert a claim against Patheon without Patheon's prior written authorization to do so. Alternatively, Patheon may instruct Client to return the Products to Patheon. Patheon will bear the cost of disposition for any damaged, defective, returned or Recalled Products for which it bears responsibility under Section 6.3. In all other circumstances, Client will bear the cost of disposition, including all applicable fees for Manufacturing Services, for any damaged, defective, returned, or Recalled Products.

6.5 Healthcare Provider or Patient Questions and Complaints.

Client will have the sole responsibility for responding to questions and complaints from its customers. Questions or complaints received by Patheon from Client's customers, healthcare providers or patients will be promptly referred to Client. Patheon will co-operate as reasonably required to allow Client to determine the cause of and resolve any questions and complaints. This assistance will include follow-up investigations, including testing. In addition, Patheon will give Client all necessary information in Patheon's possession or control that will enable Client to respond properly to questions or complaints about the Products as set forth in the Quality Agreement. If it is determined that the cause of the complaint resulted from a failure by Patheon to perform the Manufacturing Services in accordance with the Specifications, cGMPs, and Applicable Laws and any additional procedures agreed upon in writing by Patheon and Client or a breach of this Agreement by Patheon, all costs incurred under this Section 6.5 will be borne by Patheon. In all other circumstances, Client will bear the cost incurred under this Section 6.5.

6.6 Sole Remedy.

Except for the indemnity set forth in Section 10.3 and subject to the limitations set forth in Sections 10.1 and 10.2, the remedies described in this Article 6 will be Client's sole remedy for any failure by Patheon to provide the Manufacturing Services in accordance with the Specifications, cGMPs, and Applicable Laws or any additional procedures agreed upon in writing by Client and Patheon.

ARTICLE 7

CO-OPERATION

7.1 Quarterly Review.

Each party will forthwith upon execution of this Agreement appoint one of its employees to be a relationship manager responsible for liaison between the parties. The relationship managers will meet not less than quarterly to review the current status of the business relationship, including but not limited to, equipment and facilities updates, current and anticipated manufacturing capacity, planned work or changes to each Manufacturing Site and anticipated shut downs of each Manufacturing Site, and manage any issues that have arisen.

7.2 Governmental Agencies.

Subject to Section 7.8 and Article 11, each party may communicate with any governmental agency, including but not limited to governmental agencies responsible for granting Regulatory Approval for the applicable Product, regarding such Product if, in the opinion of that party's counsel, the communication is necessary to comply with the terms of this Agreement or the requirements of any law, governmental order or regulation. Unless, in the reasonable opinion of its counsel, there is a legal prohibition against doing so, each party will permit the other party to accompany and take part in any communications with the agency, and to receive copies of all communications from the agency.

7.3 Records and Accounting by Patheon.

Patheon will keep records of the manufacture, testing, and shipping of the Products, and retain samples of the Products as are necessary to comply with manufacturing regulatory requirements applicable to Patheon, as well as to assist with resolving Product complaints and other similar investigations. Unless otherwise agreed to in the Quality Agreement, copies of the records and samples will be retained for [*] following the date of Product expiry, or longer if required by Applicable Law, following which time Patheon may destroy such records or samples; provided, however, Patheon will notify Client in writing at least [*] days prior to such destruction and will retain or deliver such records or samples to Client, at Client’s option and expense, if Client so requests.

7.4 Inspection.

Client may inspect Patheon reports and records relating to this Agreement during normal business hours and with reasonable advance notice, but a Patheon representative must be present during the inspection.

7.5 Access.

Patheon will give Client reasonable access at agreed times to the areas of each Manufacturing Site in which a Product is manufactured, stored, handled, or shipped to permit Client to verify that the Manufacturing Services are being performed in accordance with the Specifications, cGMPs, and Applicable Laws. But, with the exception of “for-cause” audits, for each Product, Client will be limited each Year to [*], lasting no more than [*] days, and involving no more than [*] auditors. Client may request

additional cGMP-type audits, additional audit days, or the participation of additional auditors subject to payment to Patheon of a fee of [*] for each additional audit day and [*] per audit day for each additional auditor. Patheon agrees to permit Client to review Patheon's standard operating procedures for the manufacture of the Product and those associated with the general facilities, equipment or procedures required for compliance with cGMPs or DEA requirements. The right of access provided in this Section 7.5 will not include a right to access or inspect Patheon's financial records. Patheon will use commercially reasonable efforts to obtain the right for Client to have similar inspection rights for Patheon's third party Component suppliers. If deficiencies are found by Client during these inspections, the parties will promptly meet to discuss and resolve them and Client will be entitled to make reasonable follow up inspections to monitor correction of the deficiencies.

7.6 **Notification of Regulatory Inspections**.

Patheon will notify Client within [*] of any inspections by or communications with, any governmental agency involving the Products. Patheon will furnish to Client within [*] all material information supplied to, or supplied by the governmental agency or third party supplier to the extent that the report relates to a Product or the ability of Patheon to supply a Product. Patheon will promptly correct any deficiencies noted by any governmental agency in these inspections. Patheon will also notify Client of receipt of any form 483's or warning letters or any other significant regulatory action which Patheon's quality assurance group determines could impact the regulatory status of the Products.

7.7 **Reports**.

Upon request, Patheon will supply on an annual basis all Product data, including release test results, complaint test results, and all investigations (in manufacturing, testing, and storage), that Client reasonably requires in order to complete any filing under any applicable regulatory regime, including any Annual Report that Client is required to file with the FDA. Any additional report requested by Client beyond the scope of cGMPs and customary FDA requirements and beyond the scope of the reports provided by Section 2.2 will be subject to an additional fee to be agreed upon between Patheon and the Client.

7.8 **Regulatory Filings**.

(a) Regulatory Authority. Client will have the sole responsibility at Client's expense for filing all documents with all Regulatory Authorities and taking any other actions that may be required for the receipt and/or maintenance of Regulatory Authority approval for the commercial manufacture, distribution and sale of the Products ("**Regulatory Approval**"). Patheon will assist Client, to the extent consistent with Patheon's obligations under this Agreement, to obtain Regulatory Authority approval for the commercial manufacture, distribution and sale of all Products as quickly as reasonably possible.

(b) Verification of Data. Prior to filing any documents with any Regulatory Authority that incorporate data generated by Patheon, Client will give Patheon a copy of the documents incorporating this data to give Patheon the opportunity to verify the accuracy and regulatory validity of those documents as they relate to Patheon generated data. Patheon requires [*] days to perform this review but the parties may agree to a shorter time for the review as needed.

(c) Verification of CMC. Prior to filing with any Regulatory Authority any documentation which is or is equivalent to the Quality Module (Drug Product Section) of the Common Technical Document (all such documentation herein referred to as "**CTD**") related to any Marketing Authorization, such as a US New Drug Application, US Abbreviated New Drug Application, US Biologics Licence Application, or EU Marketing Authorisation Application, Client will give Patheon a copy of the CTD as well as all supporting documents which have been relied upon to prepare the CTD. This disclosure will permit Patheon to verify that the CTD accurately describes the validation or scale-up work that Patheon has performed and the manufacturing processes that Patheon will perform under this Agreement. Patheon requires [*] days to perform this review but the parties may agree to a shorter time for the review as needed. Client will give Patheon copies of all relevant filings at the time of submission which contain CDT information regarding the Product.

(d) Deficiencies. If, in Patheon's good faith discretion, acting reasonably, Patheon determines that any of the information given by Client under clauses (b) and (c) above is inaccurate or deficient in any manner whatsoever (the "**Deficiencies**"), Patheon will notify Client in writing of the Deficiencies. The parties will work together to have the Deficiencies resolved prior to any pre-approval inspection.

(e) Client Responsibility. For clarity, in reviewing the documents referred to in clause (b) above, Patheon's role will be limited to verifying the accuracy of the description of the work undertaken or to be undertaken by Patheon. Subject to the foregoing, Patheon will not assume any responsibility for the accuracy of any application for receipt of an approval by a Regulatory Authority, except as to information provided by or verified by Patheon. Subject to Patheon's obligation to cooperate with Client pursuant to the terms and conditions of this Agreement, Client is solely responsible for the preparation and filing of the application for approval by the Regulatory Authority.

7.9 Inspection by Regulatory Authorities.

If Client does not give Patheon the documents requested under clauses (b) and (c) above within the time specified and if Patheon reasonably believes that Patheon's standing with a Regulatory Authority may be jeopardized, Patheon may, in its sole discretion, delay or postpone any inspection by the Regulatory Authority until Patheon has reviewed the requested documents and is satisfied with their contents, but this review must be completed within [*] days of Patheon's receipt of the documentation from Client.

ARTICLE 8

TERM AND TERMINATION

8.1 Initial Term.

This Agreement will become effective as of the Effective Date and will continue until **December 31, 2020** (the "**Initial Term**"), unless terminated earlier by one of the parties in accordance herewith. This Agreement will automatically renew after the Initial Term for successive terms of two Years each if there is a Product Agreement in effect, unless either party gives written notice to the other party of its intention to terminate this Agreement at least 18 months prior to the end of the then current term. In

any event, the legal terms and conditions of this Agreement will continue to govern any Product Agreement in effect as provided in Section 1.2. Each Product Agreement will have an initial term of five years from the start of commercial manufacture at the Manufacturing Site for the Product unless the parties agree to a different number of years in the applicable Product Agreement (each, an "**Initial Product Term**"). Unless otherwise agreed in a particular Product Agreement, Product Agreements will automatically renew after the Initial Product Term for successive terms of two years each unless either party gives written notice to the other party of its intention to terminate the Product Agreement at least 18 months (the "**Product Agreement Non-Renewal Notice Period**") prior to the end of the then current term. [*].

[*].

8.2 Termination for Cause.

(a) Either party at its sole option may terminate this Agreement or a Product Agreement upon written notice where the other party has failed to remedy a material breach of any of its representations, warranties, or other obligations under this Agreement or the applicable Product Agreement within 60 days following receipt of a written notice (the "Remediation Period") of the breach from the aggrieved party that expressly states that it is a notice under this Section 8.2(a) (a "Breach Notice"). The aggrieved party's right to terminate this Agreement or the applicable Product Agreement under this Section 8.2(a) may only be exercised for a period of 60 days following the expiry of the Remediation Period (where the breach has not been remedied) and if the termination right is not exercised during this period then the aggrieved party will be deemed to have waived the breach of the representation, warranty, or obligation described in the Breach Notice. The termination of a Product Agreement under this Section 8.2(a) will not affect this Agreement or any other Product Agreements where there has been no material breach of the other Product Agreements.

(b) Either party at its sole option may immediately terminate this Agreement or a Product Agreement upon written notice, but without prior advance notice, to the other party if: (i) the other party is declared insolvent or bankrupt by a court of competent jurisdiction; (ii) a voluntary petition of bankruptcy is filed in any court of competent jurisdiction by the other party; or (iii) this Agreement or a Product Agreement is assigned by the other party for the benefit of creditors.

(c) Client may terminate a Product Agreement upon 30 days' prior written notice if any Authority takes any action, or raises any objection, that prevents Client from importing, exporting, purchasing, or selling the Product. But if this occurs, Client must still fulfill all of its obligations under Section 8.4 below and under any Capital Equipment Agreement regarding the applicable Product.

(d) Patheon may terminate this Agreement or a Product Agreement upon 12 months' prior written notice if Client assigns under Section 13.6 any of its rights under this Agreement or a Product Agreement to an assignee that (i), in the opinion of Patheon acting reasonably and in good faith, is unable to pay for Product it orders under this Agreement; or (ii) is a Patheon Competitor.

8.3 **Termination by Client**.

(a) The Client may terminate this Agreement or any Product Agreement at any time upon 12 months' prior written notice to Patheon.

(b) For any Product that has not obtained Regulatory Authority approval at the time the applicable Product Agreement is executed, the Client may terminate the applicable Product Agreement at any time on 60 days prior written notice.

8.4 **Product Discontinuation**.

Except as provided in Section 8.2(c), Client may terminate a Product Agreement upon 90 days' prior written notice if it intends to no longer order Manufacturing Services for a Product due to this Product's discontinuance in the market.

8.5 **Obligations on Termination**.

If a Product Agreement expires, or is terminated in whole or in part for any reason:

(a) Client will take delivery of and pay for all undelivered Product that was manufactured and/ or packaged in compliance with the Product Agreement and this Agreement under a Firm Order at the price in effect at the time the Firm Order was placed;

(b) Client will purchase, at Patheon's cost (plus a [*] handling fee for Components), the Inventory applicable to the Products which was purchased, produced or maintained by Patheon in reliance on Firm Orders or in accordance with Section 5.2 prior to notice of termination being given;

(c) Client will satisfy the purchase price payable under Patheon's orders with suppliers of Components, if the orders were made by Patheon in reliance on Firm Orders or in accordance with Section 5.2;

(d) Patheon will return to Client all unused Active Materials (with shipping and related expenses, if any, to be borne by Client).

(e) Client acknowledges that no Patheon Competitor will be permitted access to the Manufacturing Site; and

(f) Client will make commercially reasonable efforts, at its own expense, to remove from Patheon site(s), within [*] days, all unused Active Material and Client-Supplied Components, all applicable Inventory and Materials (whether current or obsolete), supplies, undelivered Product, chattels, equipment or other moveable property owned by Client, related to the Agreement and located at a Patheon site or that is otherwise under Patheon's care and control ("**Client Property**"). If Client fails to remove the Client Property within [*] days following the completion, termination, or expiration of the Product Agreement, Client will pay Patheon [*] per pallet, per month, [*] minimum (except that

Client will pay [*] per pallet, per month, [*] minimum, for any of the Client Property that contains controlled substances, requires refrigeration or other special storage requirements) thereafter for storing the Client Property and will assume any third party storage charges invoiced to Patheon regarding the Client Property. Patheon will invoice Client for the storage charges as set forth in Section 5.5 of this Agreement.

(g) In connection with the expiration or termination of this Agreement or any Product Agreement hereunder, at Client's request, Patheon will provide assistance reasonably required to transfer the Manufacturing Services. Such assistance may include, without limitation, providing documents required for the Manufacturing Services, attending meetings (in person or via teleconference), and subject to the confidentiality provisions hereof, hosting a Manufacturing Site visit. Except in cases of termination by Client pursuant to Section 8.2, Client will reimburse Patheon for its costs incurred in providing such assistance in accordance with a tech transfer plan and budget negotiated in good faith and agreed upon by the parties.

Any, termination or expiration of this Agreement or a Product Agreement will not affect any outstanding obligations or payments due prior to the termination or expiration, nor will it prejudice any other remedies that the parties may have under this Agreement or a Product Agreement or any related Capital Equipment Agreement. For greater certainty, the termination or expiration of this Agreement or of a Product Agreement for any reason will not affect the obligations and responsibilities of the parties under Articles 9, 10 and 11 and Sections 5.4, 5.5, 8.5, 13.1, 13.2 and 13.3, all of which survive any termination or expiration.

ARTICLE 9

REPRESENTATIONS, WARRANTIES AND COVENANTS

9.1 Authority.

Each party covenants, represents, and warrants that it has the full right and authority to enter into this Agreement and that it is not aware of any impediment that would inhibit its ability to perform its obligations hereunder.

9.2 Client Warranties.

Client represents, and warrants that:

(a) Non-Infringement.

(i) Client has the right to disclose the Specifications to Patheon;

(ii) any Client Intellectual Property, used by Patheon in performing the Manufacturing Services according to the Specifications (A) is Client's or its Affiliate's property or is the subject of a license to Client, (B and to Client's knowledge, does not infringe and will not infringe any Third Party Rights;

(iii) there are no actions or other legal proceedings against Client pending or threatened in writing alleging that the any of the Specifications, any of the Active Materials or Components, or the sale, use, or other disposition of any Product made in accordance with the Specifications as contemplated by this Agreement and the applicable Product Agreement infringes the Intellectual Property rights of any Third Party;

(b) Quality and Compliance.

(i) the Specifications for each Product conforms to the applicable regulatory approval;

(ii) the Products, if labelled and manufactured in accordance with the Specifications and in compliance with applicable cGMPs and Applicable Laws may be lawfully sold and distributed in every jurisdiction in which Client markets the Products;

(iii) on the date of shipment, the API will conform to the specifications for the API that Client has given to Patheon and the API will be contained, packaged, and labelled in accordance with Applicable Law and the Specifications, and will conform to the affirmations of fact on the container.

9.3 **Patheon Warranties**.

Patheon covenants, represents, and warrants that:

(a) it will perform the Manufacturing Services in accordance with the Specifications, cGMPs, and Applicable Laws and that any Product supplied by it hereunder at the time of shipment, will comply with the Specifications;

(b) Patheon is not aware of any Intellectual Property of any third party that is necessary for Patheon to manufacture any Product as contemplated hereby;

(c) The Active Material will not be used for any purposes beyond or different from the scope of the Manufacturing Services or otherwise in violation of the terms and conditions of this Agreement. Patheon acknowledges that certain of the Products are controlled under the Controlled Substances Act and, as such, are subject to regulations and restrictions concerning sale and distribution. Patheon agrees to comply with these regulations and restrictions, as well as any reasonable instructions from Client with respect to the use and storage of the Products. Without limiting the foregoing, (a) Patheon will obtain and/or maintain in force during the term of the Agreement all licenses and authorizations from the Drug Enforcement Administration or any other regulatory or governmental agency which are necessary for it to manufacture and possess these Products; and (b) Patheon will keep these Products in a secure location with access limited to authorized employees; and

(d) any Patheon Intellectual Property used by Patheon to perform the Manufacturing Services (i) is Patheon's or its Affiliate's unencumbered property, (ii) may be lawfully used by Patheon, and (iii) does not infringe and will not infringe any Third Party Rights.

9.4 Debarred Persons.

Patheon covenants that it will not in the performance of its obligations under this Agreement use the services of any person debarred or suspended under 21 U.S.C. §335(a) or (b). Patheon represents that it does not currently have, and covenants that it will not hire, as an officer or an employee any person who has been convicted of a felony under the laws of the United States for conduct relating to the regulation of any drug product under the *Federal Food, Drug, and Cosmetic Act* (United States).

9.5 Permits.

Client will be solely responsible for obtaining or maintaining, on a timely basis, any Regulatory Approvals for marketing the Products by Client or the Regulatory Approvals of the applicable Specifications, including, without limitation, all marketing and post-marketing approvals.

Patheon will be solely responsible for obtaining and maintain all permits, approvals and quotas necessary in order for Patheon to manufacture the Product in its facilities as contemplated hereby, and for those facilities themselves including all FDA Establishment Registrations or equivalent Registrations as applicable.

9.6 Compliance with Laws.

Each party, in connection with its performance under this Agreement, will comply with all Applicable Laws.

9.7 No Warranty.

NEITHER PATHEON NOR THE CLIENT MAKES ANY WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, BY FACT OR LAW, OTHER THAN THOSE EXPRESSLY SET FORTH IN THIS AGREEMENT. PATHEON MAKES NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR WARRANTY OF MERCHANTABILITY FOR THE PRODUCTS.

ARTICLE 10

REMEDIES AND INDEMNITIES

10.1 Consequential Damages.

Under no circumstances whatsoever will either party be liable to the other in contract, tort, negligence, breach of statutory duty, or otherwise for (i) any (direct or indirect) loss of profits, of production, of anticipated savings, of business, or goodwill or (ii) for any other liability, damage, costs, or expense of any kind incurred by the other party of an indirect or consequential nature, regardless of any notice of the possibility of these damages.

10.2 Limitation of Liability.

Except as set forth in the applicable Product Agreement, certain liabilities of Patheon are limited as set forth in subsections (a) through (c), below.

(a) Defective or Recalled Product. Patheon's maximum aggregate liability to Client for any obligation to (i) refund, offset or replace any defective Product under Section 6.3(a) or (ii) replace any recalled Products under Section 6.3(b), will not exceed [*] of the Price for the defective or recalled Product as applicable. This Section 10.2(a) shall not be subject to Section 10.2(c).

(b) Active Materials. Except as expressly set forth in Section 2.2, under no circumstances will Patheon be responsible for any loss or damage to the Active Materials. Patheon's maximum responsibility for loss or damage to the Active Materials will not exceed the Maximum Credit Value set forth in Schedule D of a Product Agreement.

(c) Maximum Liability. Except for Patheon's indemnity obligations under Section 10.3 and any liability arising from Patheon's breach of its confidentiality obligations under Article 11, or from its obligations related to Intellectual Property or from its willful misconduct, Patheon's maximum liability to Client under this Agreement or any Product Agreement for any reason whatsoever, including, without limitation, any liability arising under Section 6.3(b) relating to the expenses of a Recall or Product return, or Section 2.2 hereof or resulting from any and all breaches of its representations, warranties, or any other obligations under this Agreement or any Product Agreement will not exceed on a per Product basis [*] of revenues per Year to Patheon under the applicable Product Agreement.

10.3 Patheon Indemnity.

(a) Patheon agrees to defend and indemnify Client, its Affiliates and their respective officers, employees, and agents against all losses, damages, costs, claims, demands, judgments and liability to, from and in favor of third parties (other than Affiliates) resulting from, or relating to any claim of (i) a failure by Patheon to perform the Manufacturing Services in accordance with the Specifications, cGMPs, and Applicable Laws, (ii) Patheon's breach of its obligations under this Agreement or any Product Agreement, or (iii) Patheon's negligence, gross negligence or willful misconduct, each except to the extent that the losses, damages, costs, claims, demands, judgments, and liability are due to the negligence, gross negligence or wrongful act(s) of Client, its officers, employees, agents, or Affiliates.

(b) If a claim occurs, Client will: (a) promptly notify Patheon of the claim; (b) use commercially reasonable efforts to mitigate the effects of the claim; (c) reasonably cooperate with Patheon in the defense of the claim; and (d) permit Patheon to control the defense and settlement of the claim, all at Patheon's cost and expense.

10.4 Client Indemnity.

(a) Client agrees to defend and indemnify Patheon, its officers, employees, and agents against all losses, damages, costs, claims, demands, judgments and liability to, from and in favor of third parties (other than Affiliates) resulting from, or relating to any claim of (i) infringement or alleged infringement of any Third Party Rights in the Products, or any portion thereof, (ii) personal injury or

property damage to the extent that the injury or damage is the result of a breach of this Agreement or any Product Agreement by Client, including, without limitation, any representation or warranty contained herein, (ii) product liability resulting in personal injury or property damage arising out of the Products that are labelled and manufactured in accordance with the Specifications and in compliance with applicable cGMPs and Applicable Laws or (iii) Client's negligence, gross negligence or willful misconduct, each except to the extent that the losses, damages, costs, claims, demands, judgments, and liability are due to the negligence, gross negligence or wrongful act(s) of Patheon, its officers, employees, or agents.

(b) If a claim occurs, Patheon will: (a) promptly notify Client of the claim; (b) use commercially reasonable efforts to mitigate the effects of the claim; (c) reasonably cooperate with Client in the defense of the claim; and (d) permit Client to control the defense and settlement of the claim, all at Client's cost and expense.

10.5 Reasonable Allocation of Risk.

This Agreement (including, without limitation, this Article 10) is reasonable and creates a reasonable allocation of risk having regard to the relative profits the parties each expect to derive from the Products. Patheon assumes only a limited degree of risk arising from the manufacture, distribution, and use of the Products because Client has developed and holds the marketing approval for the Products, Client requires Patheon to manufacture and label the Products strictly in accordance with the Specifications, and Client, not Patheon, is best positioned to inform and advise potential users about the circumstances and manner of use of the Products.

ARTICLE 11

CONFIDENTIALITY

11.1 Confidential Information.

"**Confidential Information**" means any information disclosed by the Disclosing Party to the Recipient (whether disclosed in oral, written, electronic or visual form), whether before the Effective Date or during the term hereof, that is non-public, confidential or proprietary including, without limitation, information relating to the Disclosing Party's patent and trademark applications, process designs, process models, drawings, plans, designs, data, databases and extracts therefrom, formulae, methods, know-how and other Intellectual Property, its clients or client confidential information, finances, marketing, products and processes and all price quotations, manufacturing or professional services proposals, information relating to composition, proprietary technology, and all other information relating to manufacturing capabilities and operations. In addition, all analyses, compilations, studies, reports or other documents prepared by any party's Representatives containing the Confidential Information will be considered Confidential Information. Samples or materials provided hereunder as well as any and all information derived from the approved analysis of the samples or materials will also constitute Confidential Information. For the purposes of this ARTICLE 11, a party or its Representative receiving Confidential

Information under this Agreement is a "**Recipient**," and a party or its Representative disclosing Confidential Information under this Agreement is the **"Disclosing Party**."

11.2 Use of Confidential Information.

The Recipient will use the Disclosing Party's Confidential Information solely for the purpose of meeting its obligations under this Agreement. The Recipient will keep the Disclosing Party's Confidential Information strictly confidential. As Recipient, Client will use the Confidential Information of Patheon solely for the purpose of performing its obligations hereunder and for obtaining the benefits hereof. As Recipient, Patheon will use the Confidential Information of Client solely for the purpose of performing its obligations hereunder. Each Party will not disclose the Disclosing Party's Confidential Information in any manner whatsoever, in whole or in part, other than to those of its Representatives who (i) have a need to know the Confidential Information for the purpose of this Agreement; (ii) have been advised of the confidential nature of the Confidential Information and (iii) have obligations of confidentiality and non-use to the Recipient no less restrictive than those of this Agreement. Recipient will protect the Disclosing Party's Confidential Information disclosed to it by using all reasonable precautions to prevent the unauthorized disclosure, dissemination or use of the Confidential Information, which precautions will in no event be less than those exercised by Recipient with respect to its own confidential or proprietary Confidential Information of a similar nature.

11.3 Exclusions.

The obligations of confidentiality will not apply to the extent that the information:

(a) is or becomes publicly known through no breach of this Agreement by the Recipient or its Representatives;

(b) is in the Recipient's possession at the time of disclosure by the Disclosing Party other than as a result of the Recipient's breach of any legal obligation;

(c) is or becomes known to the Recipient on a non-confidential basis through disclosure by sources, other than the Disclosing Party, having the legal right to disclose the Confidential Information,

provided that the other source is not known by the Recipient to be bound by any obligations (contractual, legal, fiduciary, or otherwise) of confidentiality to the Disclosing Party with respect to the Confidential Information;

(d) is independently developed by the Recipient without use of or reference to the Disclosing Party's Confidential Information as evidenced by Recipient's written records; or

(e) is expressly authorized for release by the written authorization of the Disclosing Party.

Any combination of information which comprises part of the Confidential Information are not exempt from the obligations of confidentiality merely because individual parts of that Confidential Information were publicly known, in the Recipient's possession, or received by the Recipient, unless the combination itself was publicly known, in the Recipient's possession, or received by the Recipient.

11.4 Photographs and Recordings.

Neither party will take any photographs or videos of the other party's facilities, materials, Product, equipment or processes, nor use any other audio or visual recording equipment (such as camera phones) while at the other party's facilities, without that party's express written consent.

11.5 Permitted Disclosure.

Notwithstanding any other provision of this Agreement, the Recipient may disclose Confidential Information of the Disclosing Party to the extent required, in the reasonable opinion of counsel, in response to a valid order of a court or other governmental body or as required by law, regulation or stock exchange rule. But the Recipient will advise the Disclosing Party in advance of the disclosure to the extent practicable and permissible by the order, law, regulation or stock exchange rule and any other applicable law, will reasonably cooperate with the Disclosing Party, if requested, in seeking an appropriate protective order or other remedy, and will otherwise continue to perform its obligations of confidentiality set out herein. If any public disclosure is required by law, the parties will consult concerning the form of announcement prior to the public disclosure being made.

11.6 Return of Confidential Information.

Upon the written request of the Disclosing Party, the Recipient will promptly return the Disclosing Party's Confidential Information to the Disclosing Party or, if the Disclosing Party directs, destroy all of the Disclosing Party's Confidential Information disclosed in or reduced to tangible form including any copies thereof and any summaries, compilations, analyses or other notes derived from the Disclosing Party's Confidential Information except for one copy which may be maintained by the Recipient for its records. The retained copy will remain subject to all confidentiality provisions contained in this Agreement.

11.7 Remedies.

The parties acknowledge that monetary damages may not be sufficient to remedy a breach by either party of this Article 11 and agree that the non-breaching party will be entitled to seek specific performance, injunctive and/or other equitable relief to prevent breaches of this Article 2 and to specifically enforce the provisions hereof in addition to any other remedies available at law or in equity. These remedies will not be the exclusive remedies for breach of this Article 11 but will be in addition to any and all other remedies available at law or in equity.

ARTICLE 12

DISPUTE RESOLUTION

12.1 Commercial Disputes.

If any dispute arises out of or in connection with this Agreement or any Product Agreement (other than a dispute under Section 6.1(b) or a Technical Dispute, as defined herein), the parties will first try to resolve it amicably. In that regard, any party may send a notice of dispute to the

other, and each party will appoint, within [*] Business Days from receipt of the notice of dispute, a single representative having full power and authority to resolve the dispute. The representatives will meet as necessary in order to resolve the dispute. If the representatives fail to resolve the matter within [*] from their appointment, or if a party fails to appoint a representative within the [*] Business Day period set forth above, the dispute will immediately be referred to the Chief Operating Officer or Executive Vice President (or another officer as he/she may designate) of each party who will meet and discuss as necessary to try to resolve the dispute amicably. Should the parties fail to reach a resolution under this Section 12.1, the dispute will be referred to a court of competent jurisdiction in accordance with Section 13.16.

12.2 Technical Dispute Resolution.

If a dispute arises (other than disputes under Sections (b) or 12.1) between the parties that is exclusively related to technical aspects of the manufacturing, packaging, labelling, quality control testing, handling, storage, or other activities under this Agreement (a "**Technical Dispute**"), the parties will make all reasonable efforts to resolve the dispute by amicable negotiations. In that regard, senior representatives of each party will, as soon as possible and in any event no later than [*] Business Days after a written request from either party to the other, meet in good faith to resolve any Technical Dispute. If the parties cannot agree that a dispute is a Technical Dispute, Section 12.1 will prevail. For greater certainty, the parties agree that the release of the Products for sale or distribution under the applicable marketing approval for the Products will not by itself indicate compliance by Patheon with its obligations for the Manufacturing Services and further that nothing in this Agreement (including Exhibit A) will remove or limit the authority of the relevant qualified person (as specified by the Quality Agreement) to determine whether the Products are to be released for sale or distribution.

ARTICLE 13

MISCELLANEOUS

13.1. Inventions.

(a) For the term of this Agreement, Client hereby grants to Patheon a non-exclusive, paid-up, royalty-free, non-transferable license of Client's Intellectual Property which Patheon must use in order to perform the Manufacturing Services solely for the manufacture of the Products for Client.

(b) All Intellectual Property generated or derived by Patheon while performing the Manufacturing Services, to the extent it is specific to the development, manufacture, use, and sale of any of Client's Products that are the subject of the Manufacturing Services, will be the exclusive property of Client.

(c) All Patheon Intellectual Property will be the exclusive property of Patheon. Patheon hereby grants to Client a perpetual, irrevocable, non-exclusive, paid-up, royalty-free, transferable license to use the Patheon Intellectual Property used by Patheon to perform the Manufacturing Services to enable Client to manufacture the Product(s).

(d) Each party will be solely responsible for the costs of filing, prosecution, and maintenance of patents and patent applications on its own Inventions.

(e) Either party will give the other party written notice, as promptly as practicable, of all Inventions which can reasonably be deemed to constitute improvements or other modifications of the Products or processes or technology owned or otherwise controlled by the party.

(f) Each party agrees and acknowledges that it will not acquire by virtue of this Agreement any interest in or any trademarks or trade names of the other party but Client will have the right to identify Patheon as the manufacturer of the Products.

13.2 Intellectual Property.

Neither party has, nor will it acquire, any interest in any of the other party's Intellectual Property unless otherwise expressly agreed to in writing. Neither party will use any Intellectual Property of the other party, except as specifically authorized by the other party or as required for the performance of its obligations under this Agreement. Each party agrees to execute all applications, assignments or other instruments reasonably requested by the other party, in order for that party to establish its ownership of the Intellectual Property and to obtain whatever protection for the Intellectual Property, including patent and copyright rights, in any and all countries on the Intellectual Property as the requesting party will determine. Each party further agrees to cooperate fully with the other party in the process of securing and enforcing the other party's rights to the Intellectual Property, as applicable.

13.3 Insurance.

Each party will maintain commercial general liability insurance, including blanket contractual liability insurance covering the obligations of that party under this Agreement through the term of this Agreement and for a period of three years thereafter. This insurance will have policy limits of not less than (i) [*] for each occurrence for personal injury or property damage liability; and (ii) [*] in the aggregate per annum for product and completed operations liability. If requested each party will give the other a certificate of insurance evidencing the above and showing the name of the issuing company, the policy number, the effective date, the expiration date, and the limits of liability. The insurance certificate will further provide for a minimum of [*] days' written notice to the insured of a cancellation of, or material change in, the insurance. If a party is unable to maintain the insurance policies required under this Agreement through no fault of its own, then the party will forthwith notify the other party in writing and the parties will in good faith negotiate appropriate amendments to the insurance provision of this Agreement in order to provide adequate assurances.

13.4 Independent Contractors.

The parties are independent contractors and this Agreement and any Product Agreement will not be construed to create between Patheon and Client any other relationship such as, by way of example only, that of employer-employee, principal agent, joint-venturer, co-partners, or any similar relationship, the existence of which is expressly denied by the parties.

13.5 No Waiver.

Neither party's failure to require the other party to comply with any provision of this Agreement or any Product Agreement will be deemed a waiver of the provision or any other provision of this Agreement or any Product Agreement, with the exception of Sections 6.1 and 8.2 of this Agreement.

13.6 Assignment.

(a) Patheon may not assign this Agreement or any Product Agreement or any of its associated rights or obligations without the written consent of Client, this consent not to be unreasonably withheld. Patheon may subcontract any part of the Manufacturing Services under a Product Agreement to any of its Affiliates but Patheon will remain fully liable to Client for the Affiliate's performance.

(b) Subject to Section 8.2(d), Client may assign this Agreement or any Product Agreement or any of its associated rights or obligations without approval from Patheon. But Client will give Patheon prompt written notice of any assignment, any assignee will covenant in writing with Patheon to be bound by the terms of this Agreement or the Product Agreement.

(c) Despite the foregoing provisions of this Section 13.6, either party may assign this Agreement or any Product Agreement to any of its Affiliates or to a successor to or purchaser of all or substantially all of its business, but the assignee must execute an agreement with the non-assigning party whereby it agrees to be bound hereunder.

13.7 Force Majeure.

Neither party will be liable for the failure to perform its obligations under this Agreement or any Product Agreement if the failure is caused by an event beyond that party's reasonable control, including, but not limited to, strikes or other labor disturbances, lockouts, riots, quarantines, communicable disease outbreaks, wars, acts of terrorism, fires, floods, storms, interruption of or delay in transportation, lack of or inability to obtain fuel, power or components, or compliance with any order or regulation of any government entity acting within colour of right (a "**Force Majeure Event**"). A party claiming a right to excused performance under this Section 13.7 will immediately notify the other party in writing of the extent of its inability to perform, which notice will specify the event beyond its reasonable control that prevents the performance. Neither party will be entitled to rely on a Force Majeure Event to relieve it from an obligation to pay money (including any interest for delayed payment) which would otherwise be due and payable under this Agreement or any Product Agreement.

13.8 Additional Product.

Additional Products may be added to, or existing Products deleted from, any Product Agreement by amendments to the Product Agreement including Schedules A, B, C, and D as applicable.

13.9 Notices.

Unless otherwise agreed in a Product Agreement, any notice, approval, instruction or other written communication required or permitted hereunder will be sufficient if made or given to the

other party by personal delivery, by telecopy, facsimile communication, or internationally-recognized overnight courier or by sending the same by first class mail, postage prepaid to the respective addresses, telecopy or facsimile numbers set forth below:

If to Client:

Jazz Pharmaceuticals Ireland Limited
Fourth Floor, Connaught House
One Burlington Road
Dublin 4, Ireland
Attention: Head of Supply Chain
Facsimile No.: [*]

With a copy to:

Jazz Pharmaceuticals
3180 Porter Drive
Palo Alto, CA 94304
Attention: Legal
Facsimile No.: [*]

If to Patheon:

Patheon Pharmaceuticals Inc.
2110 East Galbraith Road
Cincinnati, OH 45237-1625
Attention: [*]
Facsimile No.: [*]

With a copy to:

Patheon Inc.
4721 Emperor Boulevard
Research Triangle Park,
NC 27703
Attention: [*]
Telecopier No.: [*]

or to any other addresses, telecopy or facsimile numbers given to the other party in accordance with the terms of this Section 13.9. Notices or written communications made or given by personal delivery, telecopy, or facsimile, will be deemed to have been sufficiently made or given when sent (receipt acknowledged), or if mailed, five days after being deposited in the United States, Canada, or European Union mail, postage prepaid or upon receipt, whichever is sooner.

13.10 Severability.

If any provision of this Agreement or any Product Agreement is determined by a court of competent jurisdiction to be invalid, illegal, or unenforceable in any respect, that determination will not impair or affect the validity, legality, or enforceability of the remaining provisions, because each provision is separate, severable, and distinct.

13.11 Entire Agreement.

This Agreement, together with the applicable Product Agreements and Quality Agreements constitute the full, complete, final and integrated agreement between the parties relating to the subject matter hereof and supersedes all previous written or oral negotiations, commitments, agreements, transactions, or understandings concerning the subject matter hereof. Any modification, amendment, or supplement to this Agreement or any Product Agreement must be in writing and signed by authorized representatives of both parties. In case of conflict, the prevailing order of documents will be this Agreement, the Product Agreement, and the Quality Agreement but the Product Agreement will prevail where it specifically states the intent to prevail over this Agreement. If a topic or subject is addressed in two or more of the foregoing agreements, and it is possible to meet the obligations under both or all of these agreements without violating the terms of either or any agreement, then the terms of both or all of the agreements will apply and be met.

13.12 Other Terms.

No terms, provisions or conditions of any purchase order or other business form or written authorization used by Client or Patheon will have any effect on the rights, duties, or obligations of the parties under or otherwise modify this Agreement or any Product Agreement, regardless of any failure of Client or Patheon to object to the terms, provisions, or conditions unless the document specifically refers to this Agreement or the applicable Product Agreement and is signed by both parties.

13.13 No Third Party Benefit or Right.

For greater certainty, nothing in this Agreement or any Product Agreement will confer or be construed as conferring on any third party any benefit or the right to enforce any express or implied term of this Agreement or any Product Agreement.

13.14 Execution in Counterparts.

This Agreement and any Product Agreement may be executed in two or more counterparts, by original or facsimile or “pdf” signature, each of which will be deemed an original, but all of which together will constitute one and the same instrument.

13.15 Use of Client Name.

Patheon will not make any use of Client’s name, trademarks or logo or any variations thereof, alone or with any other word or words, without the prior written consent of Client.

13.16 Taxes.

(a) Client will bear all taxes, duties, levies and similar charges (and any related interest and penalties) ("**Tax**" or "**Taxes**"), however designated, imposed as a result of the provision by the Patheon of Services under this Agreement, except:

(i) any Tax based on net income or gross income that is imposed on Patheon by its jurisdiction of formation or incorporation ("**Resident Jurisdiction**");

(ii) any Tax based on net income or gross income that is imposed on Patheon by jurisdictions other than its Resident Jurisdiction if this tax is based on a permanent establishment of Patheon; and

(iii) any Tax that is recoverable by Patheon in the ordinary course of business for purchases made by Patheon in the course of providing its Services, such as Value Added Tax (as more fully defined in subparagraph (d) below), Goods & Services Tax ("**GST**") and similar taxes.

(b) If Client is required to bear a tax, duty, levy or similar charge under this Agreement by any state, federal, provincial or foreign government, including, but not limited to, Value Added Tax, Client will pay the tax, duty, levy or similar charge and any additional amounts to the appropriate taxing authority as are necessary to ensure that the net amounts received by Patheon hereunder after all such payments or withholdings equal the amounts to which Patheon is otherwise entitled under this Agreement as if the tax, duty, levy or similar charge did not exist.

(c) Patheon will not collect an otherwise applicable tax if Client's purchase is exempt from Patheon's collection of the tax and a valid tax exemption certificate is furnished by Client to Patheon.

(d) If subparagraph 13.16(a)(iii) does not apply, any payment due under this Agreement for the provision of Services to Client by Patheon is exclusive of value added taxes, turnover taxes, sales taxes or similar taxes, including any related interest and penalties (hereinafter all referred to as "**VAT**"). If any VAT is payable on a Service supplied by Patheon to Client under this Agreement, this VAT will be added to the invoice amount and will be for the account of (and reimbursable to Patheon by) Client. If VAT on the supplies of Patheon is payable by Client under a reverse charge procedure (i.e., shifting of liability, accounting or payment requirement to recipient of supplies), Client will ensure that Patheon will not effectively be held liable for this VAT by the relevant taxing authorities or other parties. Where applicable, Patheon will use its reasonable commercial efforts to ensure that its invoices to Client are issued in such a way that these invoices meet the requirements for deduction of input VAT by Client, if Client is permitted by law to do so.

(e) Any Tax that Client pays, or is required to pay, but which Client believes should properly be paid by Patheon pursuant hereto may not be offset against sums due by Client to Patheon whether due pursuant to this Agreement or otherwise.

13.17 **Governing Law**.

This Agreement and any Product Agreement, unless otherwise agreed by the parties in the Product Agreement, will be construed and enforced in accordance with the laws of the State of New York and the laws of the United States of America applicable therein. The UN Convention on Contracts for the International Sale of Goods will not apply to this Agreement.

[Signature page to follow]

IN WITNESS WHEREOF, the duly authorized representatives of the parties have executed this Agreement as of the Effective Date.

PATHEON PHARMACEUTICALS INC.

By: /s/ Francis P. McCune

Name: Francis P. McCune

Title: Secretary

JAZZ PHARMACEUTICALS IRELAND LIMITED

By: /s/ Shawn Mindus

Name: Shawn Mindus

Title: VP, Head of Ireland Finance

APPENDIX 1

FORM OF PRODUCT AGREEMENT

(Includes Schedules A to D)

PRODUCT AGREEMENT

This Product Agreement (this "**Product Agreement**") is issued under the Master Manufacturing Services Agreement dated October 1, 2015 between **Patheon Pharmaceuticals Inc.**, and **Jazz Pharmaceuticals Ireland Limited** (the "**Master Agreement**"), and is entered into **[insert effective date]** (the "**Effective Date**"), between Patheon Pharmaceuticals Inc., **[or applicable Patheon Affiliate]**, a corporation existing under the laws of the State of Delaware **[or applicable founding jurisdiction for Patheon Affiliate]**, having a principal place of business at 2110 East Galbraith Road, Cincinnati, OH 45237-1625 **[or Patheon Affiliate address]** ("**Patheon**") and **[insert Client name, legal entity, founding jurisdiction and address]** ("**Client**").

The terms and conditions of the Master Agreement are incorporated herein except to the extent this Product Agreement expressly references the specific provision in the Master Agreement to be modified by this Product Agreement. All capitalized terms that are used but not defined in this Product Agreement will have the respective meanings given to them in the Master Agreement.

The Schedules to this Product Agreement are incorporated into and will be construed in accordance with the terms of this Product Agreement.

1. **Product List and Specifications** (See Schedule A attached hereto)

2. **Minimum Order Quantity, Annual Volume, and Price** (See Schedule B attached hereto)

3. **Annual Stability Testing and Validation Activities (if applicable)** (See Schedule C attached hereto)

4. **Active Materials, Active Materials Credit Value, and Maximum Credit Value** (See Schedule D attached hereto)

5. **Business Day** (if different from a Business Day at the Manufacturing Site under the definition in Section 1.3 of the Master Agreement)

6. **Manufacturing Site**: (insert address of Patheon Manufacturing Site where the Manufacturing Services will be performed)

7. **Territory**: (insert the description of the Territory here)

8. **Loss Tolerance Percentage** (per Section 2.2(b) of the Master Agreement)

9. **Extraordinary Increase in Component Cost materiality percentage** (if different from the [*] that is stated in Section 4.3 of the Master Agreement)

10. **Yearly Forecasted Volume:** (insert for sterile products if applicable under Section 4.2.1)

11. **Delivery Date Under Firm Order (**if different from the three month period set forth in Section 5.1(c) of the Master Agreement)

12. **Payment Terms**: (if different from Section 5.5 of the Master Agreement)

13. **Governing Law**: (if applicable under Section 13.17 of the Master Agreement)

14. **Inflation Index:** (if applicable under Section 4.2(a) of the Master Agreement for Products manufactured outside of the Unites States or Puerto Rico)

15. **Currency**: (if applicable under Section 1.4 of the Master Agreement)

16. **Initial Set Exchange Rate**: (if applicable under Section 4.2(d) of the Master Agreement)

17. **Initial Product Term:** (if applicable under Section 8.1 of the Master Agreement)

18. **Notices**: (if applicable under Section 13.9 of the Master Agreement)

19. **Other Modifications to the Master Agreement**: (if applicable under Section 1.2 of the Master Agreement)

_____

IN WITNESS WHEREOF, the duly authorized representatives of the parties have executed this Product Agreement as of the Effective Date set forth above.

PATHEON PHARMACEUTICALS INC. [or applicable Patheon Affiliate]

By: _____

Name: _____

Title: _____

JAZZ PHARMACEUTICALS IRELAND LIMITED [or applicable Jazz Affiliate]

By: _____

Name: _____

Title: _____

SCHEDULE A

PRODUCT LIST AND SPECIFICATIONS

Product List

[insert product list]

Specifications

Prior to the start of commercial manufacturing of Product under this Agreement Client will give Patheon the originally executed copies of the Specifications as approved by the applicable Regulatory Authority. If the Specifications received are subsequently amended, then the parties will follow the process set forth in the Quality Agreement.

SCHEDULE B

MINIMUM ORDER QUANTITY, ANNUAL VOLUME, AND PRICE

[*]

[*]

SCHEDULE C

ANNUAL STABILITY TESTING [and VALIDATION ACTIVITIES (if applicable)]

Patheon and Client will agree in writing on any stability testing to be performed by Patheon on the Products. This agreement will specify the commercial and Product stability protocols applicable to the stability testing and the fees payable by Client for this testing.

[NTD: Schedule C should clearly indicate when and/or under what conditions Patheon's responsibility to perform stability testing will end]

SCHEDULE D

ACTIVE MATERIALS

Active Materials	Supplier
•	•
•	•

ACTIVE MATERIALS CREDIT VALUE

The Active Materials Credit Value will be as follows:

PRODUCT	ACTIVE MATERIALS	ACTIVE MATERIALS CREDIT VALUE
		[*]

MAXIMUM CREDIT VALUE

Patheon's liability for Active Materials calculated in accordance with Section 2.2 of the Master Agreement **[for any Product]** in a Year will not exceed, in the aggregate, the maximum credit value set forth below:

PRODUCT	MAXIMUM CREDIT VALUE

[End of Product Agreement]

EXHIBIT A

TECHNICAL DISPUTE RESOLUTION

Technical Disputes which cannot be resolved by negotiation as provided in Section 12.2 will be resolved in the following manner:

1. **Appointment of Expert**. Within [*] Business Days after a party requests under Section 12.2 that an expert be appointed to resolve a Technical Dispute, the parties will jointly appoint a mutually acceptable expert with experience and expertise in the subject matter of the dispute. If the parties are unable to so agree within the [*] Manufacturing Site Business Day period, or in the event of disclosure of a conflict by an expert under Paragraph 2 hereof which results in the parties not confirming the appointment of the expert, then an expert (willing to act in that capacity hereunder) will be appointed by an experienced arbitrator on the roster of the American Arbitration Association.

2. **Conflicts of Interest**. Any person appointed as an expert will be entitled to act and continue to act as an expert even if at the time of his appointment or at any time before he gives his determination, he has or may have some interest or duty which conflicts or may conflict with his appointment if before accepting the appointment (or as soon as practicable after he becomes aware of the conflict or potential conflict) he fully discloses the interest or duty and the parties will, after the disclosure, have confirmed his appointment.

3. **Not Arbitrator**. No expert will be deemed to be an arbitrator and the provisions of the American Arbitration Act or of any other applicable statute (foreign or domestic) and the law relating to arbitration will not apply to the expert or the expert's determination or the procedure by which the expert reaches his determination under this Exhibit A.

4. **Procedure**. Where an expert is appointed:

   (a) Timing. The expert will be so appointed on condition that (i) he promptly fixes a reasonable time and place for receiving representations, submissions or information from the parties and that he issues the authorizations to the parties and any relevant third party for the proper conduct of his determination and any hearing and (ii) he renders his decision (with full reasons) within [*] Business Days (or another other date as the parties and the expert may agree) after receipt of all information requested by him under Paragraph 4(b) hereof.

   (b) Disclosure of Evidence. The parties undertake one to the other to give to any expert all the evidence and information within their respective possession or control as the expert may reasonably consider necessary for determining the matter before him which they will disclose promptly and in any event within [*] Business Days of a written request from the relevant expert to do so.

   (c) Advisors. Each party may appoint any counsel, consultants and advisors as it feels appropriate to assist the expert in his determination and so as to present their respective cases so that at all times the parties will co-operate and seek to narrow and limit the issues to be determined.

(d) Appointment of New Expert. If within the time specified in Paragraph 4(a) above the expert will not have rendered a decision in accordance with his appointment, a new expert may (at the request of either party) be appointed and the appointment of the existing expert will thereupon cease for the purposes of determining the matter at issue between the parties save this if the existing expert renders his decision with full reasons prior to the appointment of the new expert, then this decision will have effect and the proposed appointment of the new expert will be withdrawn.

(e) Final and Binding. The determination of the expert will, except for fraud or manifest error, be final and binding upon the parties.

(f) Costs. Each party will bear its own costs for any matter referred to an expert hereunder and, in the absence of express provision in the Agreement to the contrary, the costs and expenses of the expert will be shared equally by the parties.

For greater certainty, the release of the Products for sale or distribution under the applicable marketing approval for the Products will not by itself indicate compliance by Patheon with its obligations for the Manufacturing Services and further that nothing in this Agreement (including this Exhibit A) will remove or limit the authority of the relevant qualified person (as specified by the Quality Agreement) to determine whether the Products are to be released for sale or distribution.

EXHIBIT B

[Reserved]

EXHIBIT C

QUARTERLY ACTIVE MATERIALS INVENTORY REPORT

TO: JAZZ PHARMACEUTICALS IRELAND LIMITED

FROM: PATHEON PHARMACEUTICALS INC. [or applicable Patheon entity]

RE: Active Materials quarterly inventory report under Section 2.2(a) of the Master Manufacturing Services Agreement dated October 1, 2015 (the "**Agreement**")

Reporting quarter: _____

Active Materials on hand at beginning of quarter: _____ kg (A)

Active Materials on hand at end of quarter: _____ kg (B)

Quantity Received during quarter: _____ kg (C)

[*]

Quantity Converted during quarter: _____ kg
(total Active Materials in Products produced and not rejected, recalled or returned)

Capitalized terms used in this report have the meanings given to the terms in the Agreement.

PATHEON PHARMACEUTICALS INC.
[or applicable Patheon Affiliate]

DATE: _____

Per: _____
Name:
Title:

EXHIBIT D

REPORT OF ANNUAL ACTIVE MATERIALS INVENTORY RECONCILIATION

AND CALCULATION OF ACTUAL ANNUAL YIELD

TO: JAZZ PHARMACEUTICALS IRELAND LIMITED

FROM: PATHEON PHARMACEUTICALS INC. [or applicable Patheon entity]

RE: Active Materials annual inventory reconciliation report and calculation of Actual Annual Yield under Section 2.2(a) of the Master Manufacturing Services Agreement dated October 1, 2015 (the "Agreement")

Reporting Year ending:	_____		
Active Materials on hand at beginning of Year:	_____	kg	(A)
Active Materials on hand at end of Year:	_____	kg	(B)
Quantity Received during Year:	_____	kg	(C)
[*]			
Quantity Converted during Year: (total Active Materials in Products produced and not rejected, recalled or returned)	_____	kg	(E)
Active Materials Credit Value:	$ _____	/kg	(F)
Target Yield:	_____	%	(G)
Actual Annual Yield: ((E/D) * 100)	_____	%	(H)

[*]

Based on the foregoing reimbursement calculation Patheon will reimburse Client the amount of $_____.

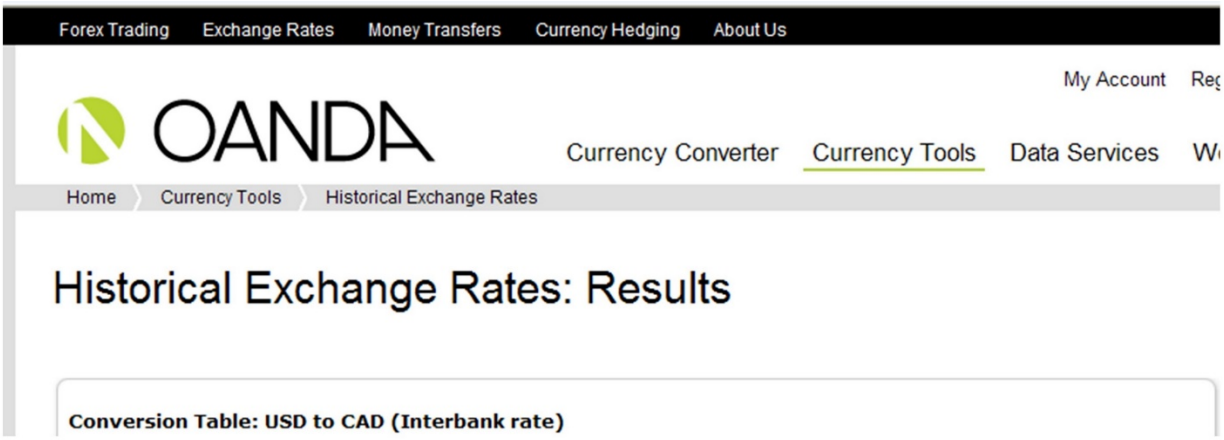
Capitalized terms used in this report have the meanings given to the terms in the Agreement.

DATE: _____

PATHEON PHARMACEUTICALS INC.
[or applicable Patheon Affiliate]

Per: _____
Name:
Title:

EXHIBIT E
EXAMPLE OF PRICE ADJUSTMENT DUE TO CURRENCY FLUCTUATION
Section 4.2(d)



Time period: 10/01/11 to 09/30/12.

Average (365 days):	0.998	-- "Set Exchange Rate"

SAMPLE EXCHANGE CALCULATION

Initial Exchange Rate:	1.000	CAD/USD
Set Exchange Rate:	0.998	CAD/USD

Initial Price:	3.59	
Revised Price (FX):	3.70	(Material price and PPI adjustments)

Calculation:

[Revised Price (After FX)] = [Revised Price (Before FX)] X [Initial Exchange Rate] / [Set Exchange Rate]

= 3.70 X [1.000 / 0.998]

= 3.71

Exhibit 21.1

Subsidiaries of the Registrant

Name	**State/Jurisdiction of Incorporation**
Jazz Pharmaceuticals Ireland Limited	Ireland
Jazz Financing I DAC	Ireland
Jazz Capital Ltd	Ireland
Jazz Pharmaceuticals, Inc.	Delaware
Celator Pharmaceuticals, Inc	Delaware
Jazz Pharmaceuticals Europe Holdings Limited	Gibraltar
Jazz Investments Europe Limited	Malta
Jazz Pharmaceuticals France SAS	France
Gentium S.r.L.	Italy
Jazz Pharmaceuticals International Limited	Bermuda
Jazz Investments I Limited	Bermuda
Jazz Pharmaceuticals UK Limited	United Kingdom

Exhibit 4.7

DESCRIPTION OF SHARE CAPITAL

The following description of the share capital of Jazz Pharmaceuticals plc, or the Company, is a summary. This summary does not purport to be complete and is qualified in its entirety by reference to the Irish Companies Act 2014 (as amended), or the Companies Act, and the complete text of the Company's amended and restated memorandum and articles of association, which amended and restated memorandum and articles of association, or the Company's Constitution, are filed as Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q filed with the U.S. Securities and Exchange Commission, or SEC, on August 9, 2016. You should read those laws and documents carefully.

Capital Structure

Authorized Share Capital

The authorized share capital of the Company is €40,000 and $30,000, divided into 4,000,000 non-voting euro deferred shares with nominal value of €0.01 per share and 300,000,000 ordinary shares with nominal value of $0.0001 per share.

The Company may issue shares subject to the maximum authorized share capital contained in the Company's Constitution. The authorized share capital may be increased or reduced (but not below the number of shares then issued and outstanding) by a resolution approved by a simple majority of the votes cast at a general meeting, in person or by proxy, of the Company's shareholders (referred to under Irish law as an "ordinary resolution"). The shares comprising the Company's authorized share capital may be divided into shares of such nominal value as the resolution shall prescribe. As a matter of Irish law, the directors of a company may issue new ordinary or preferred shares for cash without shareholder approval once authorized to do so by the memorandum and articles of association or by an ordinary resolution adopted by the shareholders at a general meeting. The authorization may be granted for a maximum period of five years, at which point it must be renewed by the shareholders by an ordinary resolution.

The Company's board of directors is authorized pursuant to shareholder resolutions passed on August 4, 2016 to issue new ordinary or preferred shares for cash without shareholder approval for a period of five years from the date of the passing of the resolutions.

The rights and restrictions to which ordinary shares are subject are prescribed in the Company's Constitution. The Company's Constitution permits it to issue preferred shares once authorized to do so by ordinary resolution. The Company may, by ordinary resolution and without obtaining any vote or consent of the holders of any class or series of shares, unless expressly provided by the terms of that class or series of shares, provide from time to time for the issuance of other classes or series of shares and to establish the characteristics of each class or series, including the number of shares, designations, relative voting rights, dividend rights, liquidation and other rights, redemption, repurchase or exchange rights and any other preferences and relative, participating, optional or other rights and limitations not inconsistent with applicable law.

Irish law does not recognize fractional shares held of record. Accordingly, the Company's Constitution does not provide for the issuance of fractional shares, and the official Irish register of the Company will not reflect any fractional shares. Whenever an alteration or reorganization of the Company's share capital would result in any shareholder becoming entitled to fractions of a share, the Company's board of directors may, on behalf of those shareholders that would become entitled to fractions of a share, sell the shares representing the fractions for the best price reasonably obtainable, to any person and distribute the proceeds of the sale in due proportion among those members.

Issued Share Capital

As of December 31, 2020, 56,143,060 ordinary shares were issued and outstanding. In addition, as of December 31, 2020, 4,000,000 non-voting euro deferred shares were issued and outstanding at that time, which shares are held by nominees in order to satisfy an Irish legislative requirement to maintain a minimum level of issued share capital denominated in euro. The euro deferred shares, which are not listed on any stock exchange and are not the subject of any registration, carry no voting rights and are not entitled to receive any dividend or distribution. On a return of assets, whether on liquidation or otherwise, the euro deferred shares will entitle the holder thereof only to the repayment of the amounts paid up on such shares after repayment of the capital paid up on ordinary shares plus the payment of $5,000,000 on each of the ordinary shares and the holders of the euro deferred shares (as such) will not be entitled to any further participation in the assets or profits of the Company.

Preemption Rights, Share Warrants and Share Options

Under Irish law, certain statutory preemption rights apply automatically in favor of shareholders where shares are to be issued for cash. However, the Company has opted out of these preemption rights by way of shareholder resolution as permitted under Irish law. Irish law provides that this opt-out expires every five years unless renewed by a resolution approved by not less than 75% of the votes cast at a general meeting, in person or by proxy, of the Company's shareholders (referred to under Irish law as a "special resolution") and Parent's current opt-out will expire on August 4, 2021. If the opt-out is not renewed before then, shares issued for cash must be offered to existing shareholders on a pro rata basis to their existing shareholding before the shares may be issued to any new shareholders. The statutory preemption rights do not apply (i) where shares are issued for non-cash consideration (such as in a stock-for-stock acquisition), (ii) to the issue of non-equity shares (that is, shares that have the right to participate only up to a specified amount in any income or capital distribution) or (iii) where shares are issued pursuant to an employee stock option or similar equity plan.

The Company's Constitution provides that, subject to any shareholder approval requirement under any laws, regulations or the rules of any stock exchange to which it is subject, the Company's board of directors is authorized, from time to time, in its discretion, to grant such persons, for such periods and upon such terms as it deems advisable, options to purchase such number of shares of any class or classes or of any series of any class as the Company's board of directors may deem advisable, and to cause warrants or other appropriate instruments evidencing such options to be issued. The Companies Act provides that, save to the extent the constitution of a company provides otherwise, the directors of a company may issue options. The Company is subject to the rules of The NASDAQ Stock Market LLC and the U.S. Internal Revenue Code of 1986, or the Code, which require shareholder approval of certain equity plan and share issuances. The Company's board of directors may issue shares upon exercise of validly issued warrants or options without shareholder approval or authorization, except as described above (up to the relevant authorized share capital limit).

Dividends

Under Irish law, dividends and distributions may only be made from distributable reserves. Distributable reserves generally means accumulated realized profits less accumulated realized losses and includes reserves created by way of capital reduction. In addition, no distribution or dividend may be made unless the Company's net assets are equal to, or in excess of, the aggregate of its called up share capital plus undistributable reserves and the distribution does not reduce its net assets below such aggregate. Undistributable reserves include the share premium account, the par value of shares acquired by Parent and the amount by which Parent's accumulated unrealized profits, so far as not previously utilized by any capitalization, exceed Parent's accumulated unrealized losses, so far as not previously written off in a reduction or reorganization of capital.

The determination as to whether or not the Company has sufficient distributable reserves to fund a dividend must be made by reference to its "relevant financial statements." The "relevant financial statements" are either the last set of unconsolidated annual audited financial statements or other financial statements properly prepared in

accordance with the Companies Act, which give a "true and fair view" of the Company's unconsolidated financial position and accord with accepted accounting practice. The relevant financial statements must be filed in the Companies Registration Office (the official public registry for companies in Ireland).

The Company's Constitution authorizes the directors to declare dividends without shareholder approval to the extent they appear justified by profits lawfully available for distribution. The Company's board of directors may also recommend a dividend to be approved and declared by the shareholders at a general meeting. The Company's board of directors may direct that the payment be made by distribution of assets, shares or cash, and no dividend issued may exceed the amount recommended by the directors. The dividends declared by the directors or shareholders may be paid in the form of cash or non-cash assets and may be paid in dollars or any other currency.

The Company's board of directors may deduct from any dividend payable to any shareholder any amounts payable by such shareholder to the Company in relation to its shares.

The Company may issue shares with preferred rights to participate in dividends declared by the Company from time to time, as determined by ordinary resolution. The holders of preferred shares may, depending on their terms, rank senior to ordinary shares in terms of dividend rights and/or be entitled to claim arrears of a declared dividend out of subsequently declared dividends in priority to ordinary shareholders.

Share Repurchases, Redemptions and Conversions

Overview

The Company's Constitution provides that, unless the board specifically determines otherwise, any ordinary share that it has agreed to acquire shall be deemed to be a redeemable share. Accordingly, for Irish law purposes, the repurchase of ordinary shares by the Company may technically be effected as a redemption of those shares as described below under "*—Repurchases and Redemptions*." If the Company's Constitution did not contain such provision, repurchases by the Company would be subject to many of the same rules that apply to purchases of its ordinary shares by subsidiaries described below under "*—Purchases by the Company's Subsidiaries*," including the shareholder approval requirements described below, and the requirement that any purchases on market be effected on a "recognized stock exchange," which, for purposes of the Companies Act, includes The NASDAQ Global Select Market. Neither Irish law nor any of the Company's constituent documents places limitations on the right of nonresident or foreign owners to vote or hold its ordinary shares. Except where otherwise noted, references herein to repurchasing or buying back ordinary shares refer to the redemption of ordinary shares by the Company or the purchase of ordinary shares by one of its subsidiaries, in each case in accordance with the Company's Constitution and Irish law as described below.

Repurchases and Redemptions

Under Irish law, a company may issue redeemable shares and redeem them out of distributable reserves or the proceeds of a new issue of shares for that purpose. Please see also "*—Dividends*." The Company may not purchase any of its shares if, as a result of such purchase, the nominal value of its issued share capital which is not redeemable would be less than 10% of the nominal value of its total issued share capital. All redeemable shares must also be fully-paid. Redeemable shares may, upon redemption, be cancelled or held in treasury. Based on the provisions of the Company's Constitution, shareholder approval will not be required to redeem its shares.

The Company may also be given an additional general authority to purchase its ordinary shares on market by way of ordinary resolution, which would take effect on the same terms and be subject to the same conditions as applicable to purchases by the Company's subsidiaries as described below.

Repurchased and redeemed shares may be cancelled or held as treasury shares. The nominal value of treasury shares held by the Company at any time must not exceed 10% of the aggregate of the par value and share premium

received in respect of the allotment of Parent shares together with the par value of any shares acquired by Parent. The Company may not exercise any voting rights in respect of any shares held as treasury shares.

Treasury shares may be canceled by the Company or re-issued subject to certain conditions.

Purchases by the Company's Subsidiaries

Under Irish law, an Irish or non-Irish subsidiary of the Company may purchase the Company's shares either on market or off market. For a subsidiary of the Company to make purchases on market of ordinary shares, the Company's shareholders must provide general authorization for such purchase by way of ordinary resolution. However, as long as this general authority has been granted, no specific shareholder authority for a particular on market purchase by a subsidiary of ordinary shares is required. For a purchase of ordinary shares by a subsidiary of the Company off market, the proposed purchase contract must be authorized by special resolution of the Company's shareholders before the contract is entered into. The person whose ordinary shares are to be bought back cannot vote in favor of the special resolution and, from the date of the notice of the meeting at which the resolution approving the contract is proposed, the purchase contract must be on display or must be available for inspection by Parent's shareholders at the registered office of Parent.

In order for one of the Company's subsidiaries to make an on market purchase of its shares, such shares must be purchased on a "recognized stock exchange." The NASDAQ Global Select Market, on which ordinary shares are currently listed, is specified as a recognized stock exchange for this purpose by Irish law.

The number of shares held by the Company's subsidiaries at any time will count as treasury shares and will be included in any calculation of the permitted treasury share threshold of 10% of the aggregate of the par value and share premium received in respect of the allotment of Parent shares together with the par value of any shares acquired by Parent. While a subsidiary holds the Company's shares, it cannot exercise any voting rights in respect of those shares and no dividend or other payment (including any payment in a winding up of the Company) shall be payable in respect of those shares. The acquisition of ordinary shares by a subsidiary must be funded out of distributable reserves of the subsidiary.

Lien on Shares, Calls on Shares and Forfeiture of Shares

The Company's Constitution provides that it has a first and paramount lien on every share that is not a fully paid up share for all amounts payable at a fixed time or called in respect of that share. Subject to the terms of their allotment, directors may call for any unpaid amounts in respect of any shares to be paid, and if payment is not made, the shares may be forfeited. These provisions are standard inclusions in the memorandum and articles of association of an Irish public company limited by shares such as the Company's and are only applicable to ordinary shares that have not been fully paid up.

Bonus Shares

Under the Company's Constitution, the Company's board of directors may resolve to capitalize any amount for the time being standing to the credit of any of Parent's reserve accounts or to the credit of the profit and loss account which is not available for distribution through the issuance of fully paid up bonus shares on the same basis of entitlement as would apply in respect of a dividend distribution.

Consolidation and Division; Subdivision

Under the Company's Constitution, the Company may, by ordinary resolution, consolidate and divide all or any of its share capital into shares of larger nominal value than its existing shares or subdivide its shares into smaller amounts than are fixed by the Company's Constitution.

Reduction of Share Capital

The Company may, by ordinary resolution, reduce its authorized share capital in any way. The Company also may, by special resolution and subject to confirmation by the Irish High Court, reduce or cancel its issued share capital (which includes share premium) in any manner permitted by the Companies Act.

Annual Meetings of Shareholders

The Company is required to hold an annual general meeting at intervals of no more than 15 months from the previous annual general meeting, provided that an annual general meeting is held in each calendar year following the first annual general meeting and no more than nine months after the Company's fiscal year-end. Parent's articles of association provide that shareholder meetings may be held outside of Ireland (subject to compliance with the Companies Act). Where a company holds its annual general meeting or extraordinary general meeting outside of Ireland, the Companies Act requires that the company, at its own expense, make all necessary arrangements to ensure that members can by technological means participate in the meeting without leaving Ireland (unless all of the members entitled to attend and vote at the meeting consent in writing to the meeting being held outside of Ireland).

Notice of an annual general meeting must be given to all of the Company's shareholders and to its auditors. The Company's Constitution provides for a minimum notice period of 21 clear days, which is the minimum permitted under Irish law.

The only matters which must, as a matter of Irish law, be transacted at an annual general meeting are the presentation of the annual financial statements and reports of the directors and auditors, a review by the shareholders of the company's affairs, the appointment of new auditors and the fixing of the auditor's remuneration (or delegation of same). If no resolution is made in respect of the reappointment of an existing auditor at an annual general meeting, the existing auditor will be deemed to have continued in office.

Extraordinary General Meetings of Shareholders

Extraordinary general meetings may be convened by (i) the Company's board of directors, (ii) on requisition of the Company's shareholders holding not less than 10% of its paid up share capital carrying voting rights, (iii) on requisition of the Company's auditors or (iv) in exceptional cases, by order of the court. Extraordinary general meetings are generally held for the purpose of approving shareholder resolutions as may be required from time to time. At any extraordinary general meeting only such business shall be conducted as is set forth in the notice thereof.

Notice of an extraordinary general meeting must be given to all of the Company's shareholders and to its auditors. Under Irish law and the Company's Constitution, the minimum notice periods are 21 clear days' notice in writing for an extraordinary general meeting to approve a special resolution and 14 clear days' notice in writing for any other extraordinary general meeting.

In the case of an extraordinary general meeting convened by the Company's shareholders, the proposed purpose of the meeting must be set out in the requisition notice. Upon receipt of any such valid requisition notice, the Company's board of directors has 21 days to convene a meeting of its shareholders to vote on the matters set out in the requisition notice. This meeting must be held within two months of the receipt of the requisition notice. If the Company's board of directors does not convene the meeting within such 21-day period, the requisitioning shareholders, or any of them representing more than one half of the total voting rights of all of them, may themselves convene a meeting, which meeting must be held within three months of the Company's receipt of the requisition notice.

If the Company's board of directors becomes aware that its net assets are not greater than half of the amount of the Company's called-up share capital, it must convene an extraordinary general meeting of its shareholders not later than 28 days from the date that they learn of this fact to consider how to address the situation.

Quorum for General Meetings

The Company's Constitution provides that no business shall be transacted at any general meeting unless a quorum is present. One or more of the Company's shareholders present in person or by proxy holding not less than a majority of the Company's issued and outstanding shares entitled to vote at the meeting in question constitute a quorum.

Voting

At general meetings of the Company, a resolution put to the vote of the meeting is decided on a poll. The Company's Constitution provides that its board of directors or its chairman may determine the manner in which the poll is to be taken and the manner in which the votes are to be counted.

Each shareholder is entitled to one vote for each ordinary share that he or she holds as of the record date for the meeting. Voting rights may be exercised by shareholders registered in the Company's share register as of the record date for the meeting or by a duly appointed proxy, which proxy need not be a shareholder. Where interests in shares are held by a nominee trust company, such company may exercise the rights of the beneficial holders on their behalf as their proxy. All proxies must be appointed in the manner prescribed by the Company's Constitution, which permits shareholders to notify the Company of their proxy appointments electronically in such manner as may be approved by the Company's board of directors.

In accordance with the Company's Constitution, it may from time to time be authorized by ordinary resolution to issue preferred shares. These preferred shares may have such voting rights as may be specified in the terms of such preferred shares (e.g., they may carry more votes per share than ordinary shares or may entitle their holders to a class vote on such matters as may be specified in the terms of the preferred shares). Treasury shares or the Company's shares that are held by its subsidiaries are not entitled to be voted at general meetings of shareholders.

Irish law requires special resolutions of the Company's shareholders at a general meeting to approve certain matters. Examples of matters requiring special resolutions include:

- amending the objects or memorandum of association of the Company;
- amending the articles of association of the Company;
- approving a change of name of the Company;
- authorizing the entering into of a guarantee or provision of security in connection with a loan, quasi- loan or credit transaction to a director or a person who is deemed to be "connected" to a director for the purposes of the Companies Act;
- opting out of preemption rights on the issuance of new shares;
- re-registration of the Company from a public limited company to a private company;
- variation of class rights attaching to classes of shares (where the articles of association do not provide otherwise);
- purchase of the Company's shares off market;
- reduction of issued share capital;
- sanctioning a compromise/scheme of arrangement with creditors or shareholders;
- resolving that the Company be wound up by the Irish courts;
- resolving in favor of a shareholders' voluntary winding-up; and

- setting the re-issue price of treasury shares.

Unanimous Shareholder Consent to Action Without Meeting

The Companies Act provides that shareholders may approve an ordinary or special resolution of shareholders without a meeting only if (i) all shareholders sign the written resolution and (ii) the company's articles of association permit written resolutions of shareholders (the Company's articles of association contain the appropriate authorizations for this purpose).

Variation of Rights Attaching to a Class or Series of Shares

Under the Company's Constitution and the Companies Act, any variation of class rights attaching to its issued shares must be approved by a special resolution of the Company's shareholders of the affected class or with the consent in writing of the holders of three-quarters of all the votes of that class of shares.

The provisions of the Company's Constitution relating to general meetings apply to general meetings of the holders of any class of the Company's shares except that the necessary quorum is determined in reference to the shares of the holders of the class. Accordingly, for general meetings of holders of a particular class of the Company's shares, a quorum consists of the holders present in person or by proxy representing at least one half of the issued shares of the class.

Inspection of Books and Records

Under Irish law, shareholders have the right to: (i) receive a copy of the Company's Constitution and any act of the Irish Government which alters its memorandum; (ii) inspect and obtain copies of the minutes of general meetings and the Company's resolutions; (iii) inspect and receive a copy of the register of shareholders, register of directors and secretaries, register of directors' interests and other statutory registers maintained in respect of the ordinary shares; (iv) receive copies of financial statements and directors' and auditors' reports which have previously been sent to shareholders prior to an annual general meeting; and (v) receive financial statements of any of the Company's subsidiaries that have previously been sent to shareholders prior to an annual general meeting for the preceding ten years. The Company's auditors also have the right to inspect all of the Company's books, records and vouchers. The auditors' report must be circulated to the shareholders with the Company's financial statements prepared in accordance with Irish law 21 clear days before the annual general meeting and must be read to the shareholders at the Company's annual general meeting.

Acquisitions

An Irish public limited company may be acquired in a number of ways, including:

- a court-approved scheme of arrangement under the Companies Act. A scheme of arrangement with shareholders requires a court order from the Irish High Court and the approval of a majority in number representing 75% in value of the shareholders present and voting in person or by proxy at a meeting called to approve the scheme;
- through a tender or takeover offer by a third party for all of the Company's shares. Where the holders of 80% or more of the Company's shares have accepted an offer for their shares, the remaining shareholders may also be statutorily required to transfer their shares, and if the bidder does not exercise its "squeeze out" right, then the non-accepting shareholders also have a statutory right to require the bidder to acquire their shares on the same terms. If the Company's shares were to be listed on the main securities market of Euronext Dublin or another main securities market or regulated stock exchange in the European Union, this threshold would be increased to 90%; and

- by way of a merger with an EU-incorporated company under the EU Cross-Border Mergers Directive 2005/56/EC. Such a merger must be approved by a special resolution.

Irish law does not generally require shareholder approval for a sale, lease or exchange of all or substantially all of a company's property and assets, unless the company is listed on a regulated stock exchange in the European Union.

Appraisal Rights

Generally, under Irish law, shareholders of an Irish company do not have dissenters' or appraisal rights. Under the European Communities (Cross-Border Mergers) Regulations 2008 governing the merger of an Irish company limited by shares such as the Company and a company incorporated in the European Economic Area (the European Economic Area includes all member states of the European Union and Norway, Iceland and Liechtenstein), a shareholder (i) who voted against the special resolution approving the merger or (ii) of a company in which 90% of the shares are held by the other party to the merger, has the right to request that the company acquire its shares for cash at a price determined in accordance with the share exchange ratio set out in the merger agreement.

Disclosure of Interests in Shares

Under the Companies Act, subject to certain limited exceptions, a person must notify the Company (but not the public) if, as a result of a transaction, such person will become interested in three percent or more of the Company's voting shares, or if as a result of a transaction a shareholder who was interested in more than three percent of its voting shares ceases to be so interested. Where any person is interested in more than three percent of the Company's voting shares, such person must notify the Company of any alteration of his or her interest that brings his or her total holding through the nearest whole percentage number, whether an increase or a reduction. The relevant percentage figure is calculated by reference to the aggregate nominal value of the voting shares in which the person is interested as a proportion of the entire nominal value of the Company's issued share capital (or any such class of share capital in issue). Where the percentage level of the person's interest does not amount to a whole percentage, this figure may be rounded down to the next whole number. The Company must be notified within five business days of the transaction or alteration of the person's interests that gave rise to the notification requirement. If a person fails to comply with these notification requirements, such person's rights in respect of any of the Company's shares he or she holds will not be enforceable, either directly or indirectly. However, such person may apply to the court to have the rights attaching to such shares reinstated.

In addition to these disclosure requirements, the Company, under the Companies Act, may, by notice in writing, require a person whom the Company knows or has reasonable cause to believe to be, or at any time during the three years immediately preceding the date on which such notice is issued to have been, interested in shares comprised in the Company's relevant share capital to: (i) indicate whether or not it is the case; and (ii) where such person holds or has during that time held an interest in the Company's shares, to provide additional information, including the person's own past or present interests in the Company's shares. If the recipient of the notice fails to respond within the reasonable time period specified in the notice, the Company may apply to a court for an order directing that the affected shares be subject to certain restrictions, as prescribed by the Companies Act, as follows:

- any transfer of those shares or, in the case of unissued shares, any transfer of the right to be issued with shares and any issue of shares, shall be void;
- no voting rights shall be exercisable in respect of those shares;
- no further shares shall be issued in right of those shares or in pursuance of any offer made to the holder of those shares; and
- no payment shall be made of any sums due from the Company on those shares, whether in respect of capital or otherwise.

The court may also order that shares subject to any of these restrictions be sold with the restrictions terminating upon the completion of the sale.

In the event the Company is in an offer period pursuant to the Irish takeover rules, as defined below, accelerated disclosure provisions apply for persons holding an interest in the Company's securities of one percent or more.

Anti-Takeover Provisions

Irish Takeover Rules and Substantial Acquisition Rules

A transaction in which a third party seeks to acquire 30% or more of the voting rights of the Company and certain other acquisitions of the Company's securities are governed by the Irish Takeover Panel Act 1997 and the Irish Takeover Rules made thereunder, which are referred to herein as the "Irish takeover rules," and are regulated by the Irish Takeover Panel. The "General Principles" of the Irish takeover rules and certain important aspects of the Irish takeover rules are described below.

General Principles

The Irish takeover rules are built on the following General Principles which will apply to any transaction regulated by the Irish Takeover Panel:

- in the event of an offer, all holders of securities of the target company must be afforded equivalent treatment and, if a person acquires control of a company, the other holders of securities must be protected;
- the holders of securities in the target company must have sufficient time and information to enable them to reach a properly informed decision on the offer; where it advises the holders of securities, the board of directors of the target company must give its views on the effects of the implementation of the offer on employment, employment conditions and the locations of the target company's place of business;
- a target company's board of directors must act in the interests of the company as a whole and must not deny the holders of securities the opportunity to decide on the merits of the offer;
- false markets must not be created in the securities of the target company, the bidder or any other company concerned by the offer in such a way that the rise or fall of the prices of the securities becomes artificial and the normal functioning of the markets is distorted;
- a bidder can only announce an offer after ensuring that he or she can pay in full the consideration offered, if such is offered, and after taking all reasonable measures to secure the implementation of any other type of consideration;
- a target company may not be hindered in the conduct of its affairs longer than is reasonable by an offer for its securities (this is a recognition that an offer will disrupt the day-to-day running of a target company, particularly if the offer is hostile and the board of directors of the target company must direct its attention to resisting the offer); and
- an acquisition of securities (whether such acquisition is to be effected by one transaction or a series of transactions) shall take place only at an acceptable speed and shall be subject to adequate and timely disclosure. Specifically, the acquisition of 10% or more of the issued voting shares within a seven day period that would take a shareholder's holding to or above 15% of the issued voting shares (but less than 30%) is prohibited, subject to certain exemptions.

Mandatory Bid

Under certain circumstances, a person who acquires ordinary shares, or other of the Company's voting securities, may be required under the Irish takeover rules to make a mandatory cash offer for the remaining issued and outstanding voting securities at a price not less than the highest price paid for the securities by the acquiror, or any parties acting in concert with the acquiror, during the previous 12 months. This mandatory bid requirement is triggered if an acquisition of securities would increase the aggregate holding of an acquiror, including the holdings of any parties acting in concert with the acquiror, to securities representing 30% or more of the voting rights in the Company, unless the Irish Takeover Panel otherwise consents. An acquisition of securities by a person holding, together with its concert parties, securities representing between 30% and 50% of the voting rights in the Company would also trigger the mandatory bid requirement if, after giving effect to the acquisition, the percentage of the voting rights held by that person (together with its concert parties) would increase by 0.05% within a 12-month period. Any person (excluding any parties acting in concert with the holder) holding securities representing more than 50% of the voting rights of a company is not subject to these mandatory offer requirements in purchasing additional securities.

Voluntary bid; Requirements to Make a Cash Offer and Minimum Price Requirements

If a person makes a voluntary offer to acquire the issued and outstanding ordinary shares of the Company and the bidder acquired ordinary shares in the three-month period prior to the commencement of the offer period, the offer price must not be less than the highest price paid for ordinary shares by the bidder or its concert parties during that period. The Irish Takeover Panel has the power to extend the "look back" period to 12 months if the Irish Takeover Panel, taking into account the General Principles, believes it is appropriate to do so.

If the bidder or any of its concert parties has acquired more than 10% of the issued and outstanding ordinary shares (i) during the period of 12 months prior to the commencement of the offer period or (ii) at any time after the commencement of the offer period, the offer must be in cash (or accompanied by a full cash alternative) and the price per ordinary share must not be less than the highest price paid by the bidder or its concert parties during, in the case of (i), the 12-month period prior to the commencement of the offer period or, in the case of (ii), the offer period. The Irish Takeover Panel may apply this rule to a bidder who, together with its concert parties, has acquired less than 10% of the total ordinary shares in the 12-month period prior to the commencement of the offer period if the Irish Takeover Panel, taking into account the General Principles, considers it just and proper to do so.

An offer period will generally commence on the date of the first announcement of the offer or proposed offer.

Substantial Acquisition Rules

The Irish takeover rules also contain rules governing substantial acquisitions of shares and other voting securities which restrict the speed at which a person may increase his or her holding of shares and rights over shares to an aggregate of between 15% and 30% of the voting rights of the Company. Except in certain circumstances, an acquisition or series of acquisitions of shares or rights over shares representing 10% or more of the voting rights of the Company is prohibited, if such acquisition(s), when aggregated with shares or rights already held, would result in the acquirer holding 15% or more but less than 30% of the voting rights of the Company and such acquisitions are made within a period of seven days. These rules also require accelerated disclosure of acquisitions of shares or rights over shares relating to such holdings.

Frustrating Action

Under the Irish takeover rules, the Company's board of directors is not permitted to take any action that might frustrate an offer for its shares once the Company's board of directors has received an approach that may lead to an offer or has reason to believe that such an offer is or may be imminent, subject to certain exceptions. Potentially frustrating actions such as (i) the issue of shares, options or convertible securities, (ii) material acquisitions or disposals, (iii) entering into contracts other than in the ordinary course of business or (iv) any action, other than

seeking alternative offers, which may result in frustration of an offer, are prohibited during the course of an offer or at any earlier time during which the Company's board of directors has reason to believe an offer is or may be imminent. Exceptions to this prohibition are available where:

- the action is approved by the Company's shareholders at a general meeting; or
- the Irish Takeover Panel has given its consent, where:
- it is satisfied the action would not constitute frustrating action;
- the Company's shareholders holding more than 50% of the voting rights state in writing that they approve the proposed action and would vote in favor of it at a general meeting;
- the action is taken in accordance with a contract entered into prior to the announcement of the offer (or any earlier time at which the Company's board of directors considered the offer to be imminent); or
- the decision to take such action was made before the announcement of the offer and either has been at least partially implemented or is in the ordinary course of business.

Other Provisions

Certain other provisions of Irish law or the Company's Constitution may be considered to have anti-takeover effects, including advance notice requirements for director nominations and other shareholder proposals, as well those described under the following captions: "*—Capital Structure—Authorized Share Capital*" (regarding issuance of preferred shares), "*—Preemption Rights, Share Warrants and Share Options*," "*—Disclosure of Interests in Shares*" and "*—Corporate Governance*."

Corporate Governance

The Company's Constitution delegates the day-to-day management of the Company to the board of directors. The Company's board of directors may then delegate the management of the Company to committees of the board of directors (consisting of one or more members of the board of directors) or executives; regardless, the Company's board of directors remains responsible, as a matter of Irish law, for the proper management of the affairs of the company. Committees may meet and adjourn as they determine proper. A vote at any committee meeting will be determined by a majority of votes of the members present.

The Company's board of directors has a standing audit committee, a compensation committee and a nominating and corporate governance committee, with each committee comprised solely of independent directors, as prescribed by The NASDAQ Global Select Market listing standards and SEC rules and regulations. The Company has adopted corporate governance policies, including a code of conduct and an insider trading policy, as well as an open door reporting policy and a comprehensive compliance program.

The Companies Act require a minimum of two directors. The Company's Constitution provides that the board may determine the size of the board from time to time.

The Company's board of directors is divided into three classes, designated Class I, Class II and Class III. The term of the Class I directors will expire on the date of the 2021 annual general meeting; the term of the Class II directors will expire on the date of the 2022 annual general meeting; and the term of the Class III directors will expire on the date of the 2020 annual general meeting. At each annual general meeting of shareholders, successors to the class of directors whose term expires at that annual general meeting are elected for a three-year term. In no case will any decrease in the number of directors shorten the term of any incumbent director. A director may hold office until the annual general meeting of the year in which his or her term expires and until his or her successor is elected and duly qualified, subject to his or her prior death, resignation, retirement, disqualification or removal from office.

Directors are elected by ordinary resolution at a general meeting. Irish law requires majority voting for the election of directors, which could result in the number of directors falling below the prescribed minimum number of directors due to the failure of nominees to be elected. Accordingly, the Company's Constitution provides that if, at any general meeting of shareholders, the number of directors is reduced below the minimum prescribed by the Constitution due to the failure of any person nominated to be a director to be elected, then, in such circumstances, the nominee or nominees who receive the highest number of votes in favor of election will be elected in order to maintain such prescribed minimum number of directors. Each director elected in this manner will remain a director (subject to the provisions of the Companies Act and the articles of association) only until the conclusion of the next annual general meeting unless he or she is reelected.

Under the Companies Act and notwithstanding anything contained in the Constitution or in any agreement between the Company and a director, the Company's shareholders may, by an ordinary resolution, remove a director from office before the expiration of his or her term at a meeting held on no less than 28 days' notice and at which the director is entitled to be heard. The power of removal is without prejudice to any claim for damages for breach of contract (e.g. employment contract) that the director may have against the Company in respect of his removal.

The Company's Constitution provides that the board of directors may fill any vacancy occurring on the board of directors. If the Company's board of directors fills a vacancy, the director's term expires at the next annual general meeting. A vacancy on the board of directors created by the removal of a director may be filled by the shareholders at the meeting at which such director is removed and, in the absence of such election or appointment, the remaining directors may fill the vacancy.

Legal Name; Formation; Fiscal Year; Registered Office

Jazz Pharmaceuticals Public Limited Company is the Company's current legal and commercial name. The Company was incorporated in Ireland on March 15, 2005 as a private limited company (registration number 399192) under the name Azur Pharma Limited. Azur Pharma Limited was re-registered as a public limited company named Azur Pharma Public Limited Company effective October 20, 2011, and was subsequently renamed Jazz Pharmaceuticals Public Limited Company on January 16, 2012. The Company's fiscal year ends on December 31st and its registered address is Fifth Floor, Waterloo Exchange, Waterloo Road, Dublin 4, Ireland D04 E5W7.

Duration; Dissolution; Rights Upon Liquidation

The Company's duration is unlimited. The Company may be dissolved and wound up at any time by way of a shareholders' voluntary winding up or a creditors' winding up. In the case of a shareholders' voluntary winding up, a special resolution of shareholders is required. The Company may also be dissolved by way of court order on the application of a creditor, or by the Companies Registration Office as an enforcement measure where it has failed to file certain returns.

The Company's Constitution provides that the ordinary shareholders are entitled to participate pro rata in a winding up, but their right to do so may be subject to the rights of any preferred shareholders to participate under the terms of any series or class of preferred shares.

Certificated Shares

Pursuant to the Companies Act, a shareholder is entitled to be issued a share certificate on request and subject to payment of a nominal fee.

No Sinking Fund

Ordinary shares have no sinking fund provisions.

Stock Exchange Listing

Ordinary shares are listed on The NASDAQ Global Select Market under the trading symbol "JAZZ." Ordinary shares are not currently intended to be listed on the Irish Stock Exchange.

Transfer and Registration of Shares

The transfer agent and registrar for ordinary shares is Computershare Trust Company, N.A. Its address is 250 Royall Street, Canton, MA 02021. An affiliate of the transfer agent maintains the share register, registration in which is determinative of ownership of ordinary shares. A shareholder who holds shares beneficially is not the holder of record of such shares. Instead, the depository (for example, Cede & Co., as nominee for DTC) or other nominee is the holder of record of those shares. Accordingly, a transfer of shares from a person who holds such shares beneficially to a person who also holds such shares beneficially through a depository or other nominee will not be registered in the Company's official share register, as the depository or other nominee will remain the record holder of any such shares.

A written instrument of transfer is required under Irish law in order to register on the Company's official share register any transfer of shares (i) from a person who holds such shares directly to any other person, (ii) from a person who holds such shares beneficially but not directly to a person who holds such shares directly, or (iii) from a person who holds such shares beneficially to another person who holds such shares beneficially where the transfer involves a change in the depository or other nominee that is the record owner of the transferred shares. An instrument of transfer is also required for a shareholder who directly holds shares to transfer those shares into his or her own broker account (or vice versa). Such instruments of transfer may give rise to Irish stamp duty, which must be paid prior to registration of the transfer on the Company's official Irish share register. However, a shareholder who directly holds shares may transfer those shares into his or her own broker account (or vice versa) without giving rise to Irish stamp duty provided there is no change in the ultimate beneficial ownership of the shares as a result of the transfer and the transfer is not made in contemplation of a sale of the shares.

Any transfer of ordinary shares that is subject to Irish stamp duty will not be registered in the name of the buyer unless an instrument of transfer is duly stamped and provided to the transfer agent. The Company, in its absolute discretion and insofar as the Companies Act or any other applicable law permit, may, or may provide that any of its subsidiaries will, pay Irish stamp duty arising on a transfer of ordinary shares on behalf of the transferee of such ordinary shares. If stamp duty resulting from the transfer of ordinary shares which would otherwise be payable by the transferee is paid by the Company or any of its subsidiaries on behalf of the transferee, then in those circumstances, the Company will, on its behalf or on behalf of its subsidiary (as the case may be), be entitled to (i) seek reimbursement of the stamp duty from the transferee, (ii) set-off the stamp duty against any dividends payable to the transferee of those ordinary shares and (iii) to claim a first and permanent lien on ordinary shares on which stamp duty has been paid by the Company or its subsidiary for the amount of stamp duty paid. The Company's lien shall extend to all dividends paid on those ordinary shares. Parties to a share transfer may assume that any stamp duty arising in respect of a transaction in ordinary shares has been paid unless one or both of such parties is otherwise notified.

The Company's Constitution delegates to the secretary or assistant secretary of the Company the authority, on behalf of the Company, to execute an instrument of transfer on behalf of a transferring party. Under the Company's Constitution, the directors can also authorize any person to execute an instrument of transfer on behalf of a transferring party in certain circumstances.

In order to help ensure that the official share register is regularly updated to reflect trading of ordinary shares occurring through normal electronic systems, the Company intends to regularly produce any required instruments of transfer in connection with any transactions for which stamp duty is paid (subject to the reimbursement and set-off rights described above). In the event that the Company notifies one or both of the parties to a share transfer that its believes stamp duty is required to be paid in connection with the transfer and that the Company will not pay the stamp duty, the parties may either themselves arrange for the execution of the required instrument of transfer (and

may request a form of instrument of transfer from the Company for this purpose) or request that the Company execute an instrument of transfer on behalf of the transferring party. In either event, if the parties to the share transfer have the instrument of transfer duly stamped (to the extent required) and then provide it to the Company's transfer agent, the buyer will be registered as the legal owner of the relevant shares on the Company's official Irish share register (subject to the suspension right described below).

The directors may suspend registration of transfers from time to time, not exceeding 30 days in aggregate each year.

Irish Restrictions on Import and Export of Capital

Except as indicated below, there are no restrictions on non-residents of Ireland dealing in Irish domestic securities, which includes ordinary shares of Irish companies. Except as indicated below, dividends and redemption proceeds also continue to be freely transferable to non-resident holders of such securities.

The Financial Transfers Act, 1992, provides that the Irish Minister for Finance can make provision for the restriction of financial transfers between Ireland and other countries. For the purposes of this Act, "financial transfers" include all transfers which would be movements of capital or payments within the meaning of the treaties governing the European Communities if they had been made between Member States of the Communities. This Act has been used by the Minister for Finance to implement European Council Directives, which provide for the restriction of financial transfers to certain countries, organizations and people including the Al-Qaeda network and the Taliban, Afghanistan, Belarus, Burma (Myanmar), Democratic People's Republic of Korea, Democratic Republic of Congo, Egypt, Iran, Iraq, Ivory Coast, Lebanon, Liberia, Libya, Republic of Guinea, Somalia, Sudan, and Syria.

Any transfer of, or payment in respect of, a share or interest in a share involving the government of any country that is currently the subject of United Nations sanctions, any person or body controlled by any of the foregoing, or by any person acting on behalf of the foregoing, may be subject to restrictions pursuant to such sanctions as implemented into Irish law.

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Jazz Pharmaceuticals plc

We consent to the incorporation by reference in the registration statements (No. 333-249807, No. 333-236636, No. 333-229889, No. 333-224757, No. 333-216338, No. 333-209767, No. 333-202269, No. 333-194131, No. 333-186886 and No. 333-179075) on Form S-8 of Jazz Pharmaceuticals plc of our reports dated February 23, 2021, with respect to the consolidated balance sheets of Jazz Pharmaceuticals plc as of December 31, 2020 and 2019, the related consolidated statements of income, comprehensive income, shareholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes and financial statement schedule at Item 15(a)2, and the effectiveness of internal control over financial reporting as of December 31, 2020, which reports appear in the December 31, 2020 annual report on Form 10-K of Jazz Pharmaceuticals plc.

/s/ KPMG

KPMG
Dublin, Ireland
February 23, 2021

Exhibit 31.2

CERTIFICATION

I, Renée Galá, certify that:

1. I have reviewed this Annual Report on Form 10-K of Jazz Pharmaceuticals public limited company;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 23, 2021

By: /s/ Renée Galá

Renée Galá
Executive Vice President and Chief Financial Officer

Exhibit 31.1

CERTIFICATION

I, Bruce C. Cozadd, certify that:

1. I have reviewed this Annual Report on Form 10-K of Jazz Pharmaceuticals public limited company;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 23, 2021

By: /s/ Bruce C. Cozadd

Bruce C. Cozadd
Chairman and Chief Executive Officer and Director

Exhibit 32.1

CERTIFICATION[(1)]

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. Section 1350), Bruce C. Cozadd, Chief Executive Officer of Jazz Pharmaceuticals public limited company (the "Company"), and Renée Galá, Executive Vice President and Chief Financial Officer of the Company, each hereby certifies that, to the best of his knowledge:

1. The Company's Annual Report on Form 10-K for the period ended December 31, 2020, to which this Certification is attached as Exhibit 32.1 (the "Periodic Report"), fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and

2. The information contained in the Periodic Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 23, 2021

/s/ Bruce C. Cozadd

Bruce C. Cozadd

Chairman and Chief Executive Officer and Director

/s/ Renée Galá

Renée Galá

Executive Vice President and Chief Financial Officer

(1) This certification accompanies the Annual Report on Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Jazz Pharmaceuticals public limited company under the Securities Act of 1933, as amended, or the Exchange Act (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing. A signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 has been provided to Jazz Pharmaceuticals public limited company and will be retained by Jazz Pharmaceuticals public limited company and furnished to the Securities and Exchange Commission or its staff upon request.