UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 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, 2016

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: 001-36326

ENDO INTERNATIONAL PLC

(Exact Name of Registrant as Specified in Its Charter)

Ireland	**68-0683755**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)
First Floor, Minerva House, Simmonscourt Road, Ballsbridge, Dublin 4, Ireland	**Not Applicable**
(Address of Principal Executive Offices)	(Zip Code)

011-353-1-268-2000
(Registrant's Telephone Number, Including Area Code)

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

Title of each class	**Name of each exchange on which registered**
Ordinary shares, nominal value $0.0001 per share	**The NASDAQ Global Market, The Toronto Stock Exchange**

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 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Sections 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 and posted on its corporate website, if any, every interactive data file required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months. Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

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

Large Accelerated Filer ☒ Accelerated Filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐
(Do not check if a smaller reporting company)

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 common equity held by non-affiliates as of June 30, 2016 was $3,084,255,040 based on a closing sale price of $15.59 per share as reported on the NASDAQ Global Select Market on June 30, 2016. Shares of the registrant's ordinary shares held by each officer and director and each beneficial owner of 10% or more of the outstanding ordinary shares of the registrant have been excluded since such persons and beneficial owners may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes. The registrant has no non-voting ordinary shares authorized or outstanding.

Indicate the number of shares outstanding of each of the registrant's classes of ordinary shares as of February 21, 2017: 222,957,922

Documents Incorporated by Reference
Portions of the registrant's proxy statement to be filed with the SEC pursuant to Regulation 14A in connection with the registrant's 2017 Annual General Meeting, to be filed subsequent to the date hereof, are incorporated by reference into Part III of this Form 10-K. Such proxy statement will be filed with the SEC not later than 120 days after the conclusion of the registrant's fiscal year ended December 31, 2016.

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FOR THE YEAR ENDED DECEMBER 31, 2016

FORWARD-LOOKING STATEMENTS

Statements contained or incorporated by reference in this document contain information that includes or is based on "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These statements, including estimates of future revenues, future expenses, future net income and future net income per share, contained in the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations," which is included in this document, are subject to risks and uncertainties. Forward-looking statements include the information concerning our possible or assumed results of operations. We have tried, whenever possible, to identify such statements by words such as "believes," "expects," "anticipates," "intends," "estimates," "plan," "projected," "forecast," "will," "may" or similar expressions. We have based these forward-looking statements on our current expectations and projections about the growth of our business, our financial performance, and the development of our industry. Because these statements reflect our current views concerning future events, these forward-looking statements involve risks and uncertainties. Investors should note that many factors, as more fully described in Part I, Item 1A of this report under the caption "Risk Factors", and as otherwise enumerated herein, could affect our future financial results and could cause our actual results to differ materially from those expressed in forward-looking statements contained or incorporated by reference in this document.

We do not undertake any obligation to update our forward-looking statements after the date of this document for any reason, even if new information becomes available or other events occur in the future, except as may be required under applicable securities law. You are advised to consult any further disclosures we make on related subjects in our reports filed with the Securities and Exchange Commission (SEC) and with securities regulators in Canada on the System for Electronic Document Analysis and Retrieval (SEDAR). Also note that, in Part I, Item 1A we provide a cautionary discussion of the risks, uncertainties and possibly inaccurate assumptions relevant to our business. These are factors that, individually or in the aggregate, we think could cause our actual results to differ materially from expected and historical results. We note these factors for investors as permitted by Section 27A of the Securities Act and Section 21E of the Exchange Act. You should understand that it is not possible to predict or identify all such factors. Consequently, you should not consider this to be a complete discussion of all potential risks or uncertainties.

PART I

Item 1. *Business*

Overview

Endo International plc is an Ireland-domiciled, generics and specialty branded pharmaceutical company. We aim to be the premier partner to healthcare professionals and payment providers, delivering an innovative suite of generic and branded drugs to meet patients' needs. Unless otherwise indicated or required by the context, references throughout to "Endo," the "Company," "we," "our" or "us" refer to financial information and transactions of Endo Health Solutions Inc. (EHSI) and its consolidated subsidiaries prior to February 28, 2014 and Endo International plc and its consolidated subsidiaries thereafter.

The Company's focus is on U.S. Generic Pharmaceuticals, U.S. Branded Pharmaceuticals and International Pharmaceuticals and we target areas where we can build a leading position. Endo uses a differentiated operating model based on a lean and nimble structure, the rational allocation of capital and an emphasis on research and development for high-value targets. We believe this operating model and the execution of our corporate strategy will enable Endo to create shareholder value over the long-term.

While Endo's primary focus will be on organic growth, we will evaluate and, where appropriate, execute on opportunities to expand through the acquisition of products and companies in areas that will serve patients and customers and that we believe will offer above average growth characteristics and attractive margins.

On October 31, 2013, Endo International plc was incorporated in Ireland as a private limited company and re-registered effective February 18, 2014 as a public limited company. Endo International plc was established for the purpose of facilitating the business combination between EHSI and Paladin Labs Inc. (Paladin). On February 28, 2014, the Company, through a Canadian subsidiary, acquired all of the shares of Paladin and a U.S. subsidiary of the Company merged with and into EHSI, with EHSI surviving the merger. As a result of these transactions, the former shareholders of EHSI and Paladin became the shareholders of Endo International plc and both EHSI and Paladin became indirect wholly-owned subsidiaries of the Company.

We operate in three business segments which are U.S. Generic Pharmaceuticals, U.S. Branded Pharmaceuticals and International Pharmaceuticals. Our segments are further discussed in Note 6. Segment Results in the Consolidated Financial Statements included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules" and in Item 7 of this report "Management's Discussion and Analysis of Financial Condition and Results of Operations" under the caption "Business Segment Results Review."

On September 25, 2015, we acquired Par Pharmaceutical Holdings, Inc. (Par), which develops, licenses, manufactures, markets and distributes innovative and cost-effective pharmaceuticals that help improve patient quality of life. Par focuses on first-to-file or first-to-market opportunities and high-barrier-to-entry products that are difficult to formulate, difficult to manufacture, or that face complex legal and regulatory challenges. The Company's U.S. Generic Pharmaceuticals segment, which was formed through a series of acquisitions including Par, Generics International (US Parent), Inc. (formerly doing business as Qualitest Pharmaceuticals (Qualitest)), Boca Pharmacal LLC (Boca) and DAVA Pharmaceuticals, Inc. (DAVA), now collectively doing business as Par Pharmaceutical, is the fourth largest U.S. generics company based on market share.

Our U.S. Generic Pharmaceuticals portfolio, which accounted for 64%, 51% and 48% of total revenues in 2016, 2015 and 2014, respectively, currently consists of a differentiated product portfolio including tablets, capsules, powders, injectables, liquids, nasal sprays, ophthalmics and patches.

On January 29, 2015, we acquired Auxilium Pharmaceuticals, Inc. (Auxilium), a fully integrated specialty pharmaceutical company with a focus on developing and commercializing innovative products for specific patients' needs in orthopedics, dermatology and other therapeutic areas. Auxilium was absorbed into our legacy branded business along with branded assets obtained from other acquisitions, including Par, to form our current U.S. Branded Pharmaceuticals segment. We have a portfolio of products offered by our U.S. Branded Pharmaceuticals segment that includes established brand names such as Lidoderm®, OPANA® ER, Voltaren® Gel, Percocet®, Fortesta® Gel, Testim®, TESTOPEL®, Aveed®, Supprelin® LA and XIAFLEX®, among others. Our branded pharmaceuticals comprised approximately 29%, 39% and 41% of our total revenues in 2016, 2015 and 2014, respectively.

The International Pharmaceuticals segment, which accounted for 7%, 10% and 11% of total revenues in 2016, 2015 and 2014, respectively, includes a variety of specialty pharmaceutical products for the Canadian, Latin American, South African and world markets, which we acquired in the Paladin acquisition in February 2014, including Litha Healthcare Group Limited (Litha) in South Africa, in the Grupo Farmacéutico Somar, Sociedad Anónima Promotora de Inversión de Capital Variable (Somar) acquisition in July 2014 and through the acquisition of certain Aspen Holdings assets in October 2015 (the Aspen Asset Acquisition). Paladin's key products serve growing therapeutic areas, including attention deficit hyperactivity disorder (ADHD), pain, women's health and oncology. Somar develops, manufactures and markets high-quality generic, branded generic and over-the-counter products across key market segments including dermatology and anti-infectives. Litha is a diversified healthcare group providing services, products and solutions to public and private hospitals, pharmacies, general and specialist practitioners, as well as government healthcare programs. During the fourth quarter of 2016, the Company initiated a process to sell its Litha Healthcare Group Limited and related Sub-Sahara African business assets (Litha) and on February 27, 2017, the Company entered into a definitive agreement to sell Litha to Acino Pharma AG. The assets and liabilities of Litha are classified as held for sale in the Consolidated Balance Sheet as of December 31, 2016.

Across all of our businesses, we generated total revenues of $4.01 billion, $3.27 billion and $2.38 billion in 2016, 2015 and 2014, respectively.

On February 24, 2016, the Board of Directors resolved to wind-down the Company's Women's Health Business (formerly part of our American Medical Systems Holdings, Inc. (AMS) business) (referred to herein as Astora) as it did not align with the Company's strategic direction and to reduce Astora's exposure to mesh-related product liability. Astora ceased business operations on March 31, 2016 and completed a wind-down process during 2016 that included, among other things, assisting physician-customers in transitioning to alternative products.

The ordinary shares of Endo International plc are traded on the NASDAQ Global Market (NASDAQ) and the Toronto Stock Exchange (TSX) under the ticker symbol "ENDP." References throughout to "ordinary shares" refer to EHSI's common shares, 350,000,000 authorized, par value $0.01 per share, prior to the consummation of the February 2014 transactions and to Endo International plc's ordinary shares, 1,000,000,000 authorized, par value $0.0001 per share, subsequent to the consummation of these transactions. In addition, on February 11, 2014 the Company issued 4,000,000 euro deferred shares of $0.01 each at par.

Our global headquarters are located at Minerva House, Simmonscourt Road, Ballsbridge, Dublin 4, Ireland (telephone number: 011-353-1-268-2000) and our U.S. headquarters are located at 1400 Atwater Drive, Malvern, Pennsylvania 19355 (telephone number: 484-216-0000).

Our Strategy

Endo's strategy is to focus on our core assets, a leading U.S. generics business and a specialty branded pharmaceutical business, that deliver high quality medicines to patients through excellence in development, manufacturing, and commercialization. Through a lean and efficient operating model, we are committed to serving patients and customers while continuing to innovate and provide products that make a difference in the lives of patients. We strive to maximize shareholder value by adapting to market realities and customer needs.

We are committed to driving organic growth at attractive margins by improving execution, optimizing cash flow and leveraging our market position, while maintaining a streamlined cost structure throughout each of our businesses. Specific areas of management's focus include:

- U.S. Generic Pharmaceuticals: Capitalizing on encouraging demand trends for a differentiated product portfolio and focusing on developing or acquiring high-barrier-to-entry products, including first-to-file or first-to-market opportunities that are difficult to formulate, difficult to manufacture or face complex legal and regulatory challenges.
- U.S. Branded Pharmaceuticals: Accelerating performance of organic growth drivers in our Specialty portfolio, increasing profitability from our mature brands and investing in key pipeline development opportunities.
- International Pharmaceuticals: Operating in high growth business segments with durable revenue streams and where physicians play a significant role in choosing the course of therapy and expanding distribution of certain of our generic and branded products outside of the U.S.

We remain committed to strategic R&D across each business unit. Going forward, while our primary focus will be on organic growth, we will evaluate and, where appropriate, execute on opportunities to expand through acquisitions of products and companies.

Our Competitive Strengths

To successfully execute our strategy, we must continue to capitalize on our following core strengths:

Experienced and dedicated management team. Through the acquisition of Par, we have obtained a highly skilled and customer focused management team that is now in critical leadership positions across all of Endo. Our senior management team has extensive experience in the pharmaceutical industry and a proven track record of developing businesses and value creation. This experience includes improving business performance through organic revenue growth and through identifying, consummating and integrating licensing and acquisition opportunities.

Focus on the differentiated products of our generics business. We develop high-barrier-to-entry generic products, including first-to-file or first-to-market opportunities that are difficult to formulate, difficult to manufacture or face complex legal and regulatory challenges. We believe products with these characteristics will face a lesser degree of competition and therefore provide longer product life cycles and higher profitability than commodity generic products. Our business model continues to focus on being the lowest-cost producer of products in categories with higher barriers to entry and lower levels of competition by leveraging operational efficiency. Our U.S. Generic Pharmaceuticals segment is focused in categories where there are fewer challenges from low-cost operators.

Operational excellence. Through our acquisition of Par, we have strategically enhanced the efficiency, effectiveness, and quality of our U.S. Generics manufacturing capabilities across a diversified array of dosage forms. We believe our comprehensive suite of technology, manufacturing and development competencies increases the likelihood of success in commercializing high-barrier-to-entry products and obtaining first-to-file and first-to-market status on future products, yielding more sustainable market share and profitability. We believe that our competitive advantages include our integrated team-based approach to product development that combines our formulation, regulatory, legal, manufacturing and commercial capabilities; our ability to introduce new generic equivalents for brand-name drugs; our quality and cost-effective production; our ability to meet customer expectations; and the breadth of our existing generic product portfolio offerings. Through our recent strategic assessment, we have taken further steps to optimize our generic and specialty branded product portfolios and now look to capitalize on a much stronger and durable in-line product portfolio and R&D pipeline. We are focused only on those marketed products that deliver acceptable returns on investment, thereby leveraging our existing platform to drive operational efficiency.

Growth of our branded Specialty products while leveraging the strength of our established brands portfolio. We have assembled a portfolio of branded prescription products offered by our U.S. Branded Pharmaceuticals segment to treat and manage conditions in urology, urologic oncology, endocrinology, pain and orthopedics. Our Specialty products include: XIAFLEX® for the treatment of Peyronie's disease and XIAFLEX® for Dupuytren's contracture, Supprelin® LA for Central Precocious Puberty, Nascobal® used as a supplement to treat vitamin B_{12} deficiency and Aveed® and Testopel® for testosterone replacement therapy. Our established branded products also include: Lidoderm®, OPANA® ER, Voltaren® Gel, Percocet®, Fortesta® Gel, and Testim®. For a more detailed description of each of our products, see "Products Overview."

Continuing proactive diversification of our business. We have executed a number of corporate acquisitions to diversify our business and divested certain other assets to become a highly focused generics and specialty branded pharmaceutical company. Our acquisitions of Paladin and Auxilium have enhanced our branded pharmaceutical research and development pipeline. The acquisition of Par created critical mass and added scale in our generics business while enhancing and expanding our capabilities in Paragraph IV products, complex dosage forms and research and development. As a result, we have redefined our position in the healthcare marketplace. Going forward, our primary focus will be on organic growth. However, we will evaluate and, where appropriate, execute on opportunities to expand through acquisitions of products and companies in areas that will serve patients and customers and that we believe will offer above average growth characteristics and attractive margins. In particular, we look to continue to enhance our product lines by acquiring or licensing rights to additional products and regularly evaluating selective acquisition opportunities.

Research and development expertise. Our research and development efforts are focused on the development of a balanced, diversified portfolio of innovative and clinically differentiated products. The acquisition of Auxilium added multiple, strategically-aligned programs to our branded pharmaceutical research and development pipeline with the addition of XIAFLEX®. Through our U.S. Generics business, we seek out and develop high-barrier-to-entry generic products, including first-to-file or first-to-market opportunities. We remain committed to research and development across each business unit with a particular focus on assets with inherently lower risk profiles and clearly defined regulatory pathways. Our current research and development pipeline consists of products in various stages of development. As of December 31, 2016, our U.S. Generic Pharmaceuticals segment has over 200 products in our pipeline, which included approximately 120 Abbreviated New Drug Applications (ANDAs) pending with the U.S. Food and Drug Administration (FDA) representing approximately $32.0 billion of combined annual sales for the corresponding branded products in 2016, including 35 potential first-to-file and four first-to-market opportunities. In addition, we have submitted applications for regulatory approval of various products in our international markets. For a more detailed description of our development pipeline, see "Select Products in Development."

At February 21, 2017, our research and development and regulatory affairs staff consisted of 1,172 employees, based primarily in Huntsville, Alabama, Chestnut Ridge, New York, Chennai, India, at our global headquarters in Dublin, Ireland and at our U.S. headquarters in Malvern, Pennsylvania.

Targeted sales and marketing infrastructure. Our sales and marketing activities focus on the promotion of our Specialty product portfolio. We market our products directly to physicians through a dedicated sales force of over 250 individuals, the majority of which are in the United States. We market our products to specialty physicians, including those specializing in urology, orthopedics, neurology, surgery and pediatric endocrinology. Our sales force also targets retail pharmacies and other healthcare professionals. We distribute our products through independent wholesale distributors, but we also sell directly to retailers, clinics, government agencies, doctors, independent retail and specialty pharmacies and independent specialty distributors. Our marketing policy is designed to provide that products and relevant, appropriate medical information are immediately available to physicians, pharmacies, hospitals, public and private payers, and appropriate healthcare professionals. We work to gain access to healthcare authority, pharmacy benefit managers and managed care organizations' formularies (lists of recommended or approved medicines and other products), including Medicare Part D plans and reimbursement lists by demonstrating the qualities and treatment benefits of our products within their approved indications.

Cash flow from operations. We have historically generated cash flow from operations due to a unique combination of strong brand equity and attractive margins. While we expect our core business to continue to generate significant cash flow from operations, these cash flows have been adversely impacted and may continue to be adversely impacted by certain payments related to mesh legal settlements and other items. For the year ended December 31, 2016, we generated $524.4 million of cash from operations. This was primarily driven by U.S. Federal tax refunds received of $760.0 million and increased revenues. Partially offsetting these sources of cash are significant pre-tax cash outlays made during 2016, including $1,195.9 million of previously accrued mesh-related product liability and other litigation matters payments, $97.9 million of cash paid related to restructuring initiatives and $68.2 million of transaction costs and certain integration costs.

We expect to continue to maintain sufficient liquidity to give us flexibility to make investments in our business and to service our liabilities, including our mesh-related obligations. As of December 31, 2016, we had $519.5 million of cash and cash equivalents and marketable securities and up to $997.4 million of availability under the revolving credit facilities. In addition, at December 31, 2016, our restricted cash and cash equivalents includes $276.0 million held in Qualified Settlement Funds for mesh product liability settlement agreements, which are expected to be paid to qualified claimants within the next twelve months.

Our Areas of Focus

Generic Pharmaceuticals Market

Our U.S. Generic Pharmaceuticals segment develops, licenses, manufactures, markets and distributes innovative and cost-effective pharmaceuticals with a focus on first-to-file or first-to-market opportunities and high-barrier-to-entry products that are difficult to formulate, difficult to manufacture, or that face complex legal and regulatory challenges.

We sell generic products primarily in the United States across multiple therapeutic categories, including pain management, urology, central nervous system disorders, immunosuppression, oncology, women's health and cardiovascular disease markets, among others. Product dosage forms and delivery systems include solid oral extended-release, solid oral immediate-release and abuse-resistant products, as well as alternative dosage forms such as liquids, semi-solids, patches, powders, ophthalmics, sprays, and sterile injectable products.

Our largest U.S. Generic Pharmaceuticals manufacturing sites are in Chestnut Ridge, New York; Huntsville, Alabama; Irvine, California; Rochester, Michigan; and Chennai, India; which handle the production, assembly, quality assurance testing and packaging of our products. We estimate that, for the products we manufacture, our U.S. facilities contributed over 95% of our manufacturing production based on revenue compared to fewer than 5% contributed by our facility in India.

Refer to the Products Overview section below for additional information on our U.S. Generics Pharmaceutical products.

Branded Pharmaceutical Products Markets

Specialty Pharmaceuticals Market

Endo commercializes a number of products within the market served by specialty distributors and specialty pharmacies, and in which healthcare practitioners (HCPs) can purchase and bill payors directly (the buy and bill market). Our treatment offerings currently are in two distinct areas: Urology, which focuses mainly on XIAFLEX® for the treatment of Peyronie's disease; and in Orthopedics/Pediatric Endocrinology, focusing on XIAFLEX® for Dupuytren's contracture and Supprelin® LA for Central Precocious Puberty (CPP).

Peyronie's Disease (PD)—PD is a condition that involves the development of collagen plaque, or scar tissue, on the shaft of the penis. The scar tissue, known as a Peyronie's plaque, may harden and reduce flexibility, which may cause bending or arching of the penis during erection. PD can result in varying degrees of penile curvature deformity and disease bother, which encompasses concern about erection appearance, erection pain and the impact of PD on intercourse and on frequency of intercourse. PD is a disease with an initial inflammatory component. This inflammatory phase is poorly understood with a somewhat variable disease course and spontaneous resolution occurring in an estimated 20% of cases. After approximately 12 months of disease, the disease is reported to often develop into a more chronic, stable phase. The incidence of PD is estimated between 3% and 9% of the population; however the disease is believed to be underdiagnosed and undertreated.

Dupuytren's Contracture (DC)—DC is a progressive condition that limits hand function, diminishes quality of life, and may ultimately disable the hand through the inability to move or straighten one's finger or fingers. It is caused by an abnormal buildup of collagen. In people with DC, this collagen builds up over time and can thicken into a rope-like cord in the palm that contracts the finger. DC is a genetic condition and the incidence of DC is estimated to be between 3% and 9% of the population among adult Caucasians. DC is more common in men than in women, and increases in incidence with age.

Central Precocious Puberty (CPP)—Precocious puberty is defined as the onset of developmental signs of sexual maturation earlier than would be expected based on population norms. This is typically delineated as puberty onset before eight years in girls and nine years in boys. In the most common form of CPP, sexual maturation proceeds from a premature activation of the hypothalamic-pituitary-gonadal (HPG) axis. The HPG axis is active during infancy, dormant during childhood, and reactivated at the onset of puberty. The epidemiology of CPP is somewhat nebulous, with a commonly cited prevalence range of one in 5,000 to one in 10,000 children. CPP is known to occur more frequently in girls than in boys and has different predominant causes for each sex. Idiopathic CPP, without an identifiable predisposing condition, accounts for the majority of cases of precocious puberty in girls, but is less frequent in boys. Central nervous system findings such as tumors and congenital malformations are more frequently observed in boys who present with central precocious puberty. It is estimated that two thirds of precocious puberty cases in boys are due to neurological abnormalities. The likelihood of an organic cause for CPP is greater in patients who present at younger ages.

Urology Market

Endo has a number of key treatment offerings within the urology markets, specifically the men's health sector with testosterone replacement therapies (TRT).

In the U.S. alone, the prevalence of hypogonadism is approximately 8% of men above 50 years of age, however, only approximately 9% of those affected are currently being treated. By 2025, it is estimated there will be approximately 6.5 million American men 30-80 years of age who are diagnosed with androgen deficiency. Hypogonadism, or low testosterone, is under diagnosed and under treated. Factors contributing to this include a lack of screening for low testosterone and the perceived risk of prostate cancer associated with current treatment strategies. In the U.S., TRT sales were approximately $1.9 billion in 2016. For TRT, our treatment offerings include the long-acting products Aveed®, which was launched in March 2014 and TESTOPEL®. In addition, our TRT treatment offerings include our gel products such as Fortesta® Gel and the authorized generic of Fortesta® Gel, which launched in September 2014, and Testim®.

Pain Management Market

Endo has a number of key treatment offerings within the Pain Management Market. Our treatment offerings currently are in two key areas: Chronic Pain, including OPANA® ER and Percocet® in the opioid analgesics segment, and Lidoderm®, which is for the relief of pain associated with post-herpetic neuralgia; and Osteoarthritis (OA) Pain, which is treated with Voltaren® Gel.

In December 2016, Endo announced that it was returning BELBUCA™ to BioDelivery Sciences International, Inc. (BDSI). As a result of this announcement, Endo restructured its U.S. Branded Pharmaceuticals segment sales organization, which will allow the Company to focus efforts and resources more fully on its core U.S. Branded assets, including XIAFLEX® in the approved indications and the cellulite development program. The Company's legacy pain portfolio products, including OPANA® ER and Percocet®, among others, will be managed as mature brands. The restructuring was comprised of certain cost savings initiatives, including the elimination of an approximate 375-member U.S. Branded pain field sales force.

International Pharmaceuticals Market

Our International Pharmaceuticals segment includes a variety of specialty pharmaceutical and branded generic products for the Canadian, Latin American, South African and non-U.S. markets. During the fourth quarter of 2016, the Company initiated a process to sell its Litha and related Sub-Sahara African business assets and on February 27, 2017, the Company entered into a definitive agreement to sell Litha to Acino Pharma AG.

Products Overview

U.S. Generic Pharmaceuticals

The U.S. Generic Pharmaceuticals segment, which comprised 64% of the Company's consolidated revenues for the year-ended December 31, 2016, consists of a portfolio of over 250 generic prescription product families focused in the areas of pain management, urology, central nervous system (CNS) disorders, immunosuppression, oncology, women's health and cardiovascular disease markets, among others. Generic drugs are the pharmaceutical and therapeutic equivalents of branded products and are generally marketed under their generic (chemical) names rather than by brand names. Typically, a generic drug may not be marketed until the expiration of applicable patent(s) on the corresponding branded product, unless a resolution of patent litigation results in an earlier opportunity to enter the market. Generic drugs are the same as branded products in dosage form, safety, efficacy, route of administration, quality, performance characteristics and intended use, but they are sold generally at prices below those of the corresponding branded products. Generic drugs provide a cost-effective alternative for consumers, while maintaining the same high quality, efficacy, safety profile, purity and stability of the branded product.

An ANDA is required to be filed and approved by the FDA in order to manufacture a generic drug for sale in the United States (except in the case of authorized generics, described further below). We sell generic products primarily in the United States across multiple therapeutic categories. An ANDA that is the first ANDA filed containing a patent challenge to the corresponding branded product (a first-to-file product or a Paragraph IV product) offers the opportunity for 180 days of generic marketing exclusivity if we are successful in litigating the patent challenge and receive final FDA approval of the product. A first-to-market product refers to a product that is the first marketed generic equivalent of a branded product for reasons apart from statutory marketing exclusivity, such as the generic equivalent of a branded product that is difficult to formulate or manufacture. We target these types of market opportunities to mitigate risks from competitive pressure commonly associated with commoditized generic products.

The timing of final FDA approval of ANDA applications depends on a variety of factors, including whether the applicant challenges any listed patents for the drug and whether the manufacturer of the reference listed drug is entitled to one or more regulatory exclusivity periods, during which the FDA is prohibited from approving generic equivalents. In certain circumstances, a regulatory exclusivity period can extend beyond the life of a patent, and thus block ANDAs from being approved until after the patent expiration date. The time required to obtain FDA approval of ANDAs for a new product varies in time, generally requiring a minimum of 10 months following submission of the ANDA to FDA, but could also take several years from the date of application.

We have a generics portfolio across an extensive range of dosage forms and delivery systems, including immediate and extended release oral solids (tablets, orally disintegrating tablets, capsules and powders), injectables, liquids, nasal sprays, ophthalmics (which are sterile pharmaceutical preparations administered for ocular conditions) and transdermal patches (which are medicated adhesive patches designed to deliver the drug through the skin).

We have development, manufacturing and distribution capabilities in the rapidly growing U.S. market for sterile drug products, such as injectable products, ophthalmics, and sterile vial and hormonal handling capabilities. These capabilities afford us a broader and more diversified product portfolio and a greater selection of targets for potential development. We target products with limited competition for reasons such as manufacturing complexity or the market size, which make our sterile products a key growth driver of our generics portfolio and complementary to our other generic product offerings.

Authorized generics are generic versions of branded drugs licensed by brand drug companies under a New Drug Application (NDA) and marketed as generics. Authorized generics do not face regulatory barriers to introduction and are not prohibited from sale during the 180-day marketing exclusivity period granted to the first-to-file ANDA applicant. The sale of authorized generics adversely impacts the market share of a generic product that has been granted 180 days of marketing exclusivity. Our recent authorized generics include lidocaine patch 5% (Lidoderm®), metoprolol succinate ER (Toprol-XL®), budesonide (Entocort® EC), and diclofenac sodium gel (Voltaren® Gel). We believe we are a partner of choice to larger brand companies seeking an authorized generics distributor for their branded products. We have recently been the authorized generic distributor for such companies as AstraZeneca plc, Bristol-Myers Squibb Company, and Merck & Co., Inc.

The following table displays the product revenues to external customers in our U.S Generics Pharmaceuticals segment for the years ended December 31 (in thousands):

	2016	2015	2014
U.S. Generic Pharmaceuticals (1):			
U.S. Generics Base	$ 1,230,097	$ 1,083,809	$ 1,140,821
Sterile Injectables	530,805	107,592	—
New Launches and Alternative Dosages	803,711	481,015	—
Total U.S. Generic Pharmaceuticals	$ 2,564,613	$ 1,672,416	$ 1,140,821

(1) The U.S. Generics Base revenue for the year ended December 31, 2014 in the table above includes revenue for New Launches and Alternative Dosages. We began tracking New Launches and Alternative Dosages for the year ended December 31, 2015. There was no Sterile Injectables revenue for the year ended December 31, 2014.

U.S. Generics Base is comprised of more than 200 solid oral-extended release, solid oral-immediate release and pain/controlled substances products. This category includes the antidepressant bupropion XL and the portfolio of opioid-containing products such as hydrocodone bitartrate and acetaminophen tablets.

Sterile Injectables is comprised of high-barrier-to-entry injectable products that are generally difficult to manufacture, including Vasostrict®, the first and only vasopressin injection product approved by the FDA. We have been issued a patent relating to Vasostrict® by the U.S. Patent and Trademark Office (PTO). This patent expires in January 2035 and was submitted to the FDA's Approved Drug Products with Therapeutic Equivalence Evaluations (known as the Orange Book) on June 28, 2016. The Orange Book listing requires any ANDA applicant seeking FDA approval for a generic version of Vasostrict® prior to expiration of the patent to notify us of its ANDA filing before it can obtain FDA approval. Any ANDA filer seeking approval prior to patent expiry whose application was not received prior to submission of the patent information would be subject to a 30-month stay of marketing approval by the FDA upon our initiation of Hatch-Waxman litigation against the ANDA filer within the statutory time period.

New Launches and Alternative Dosages is comprised of liquids, semi-solids, patches, powders, ophthalmics, sprays and new product launches. Products are included in New Launches during the calendar year of launch and the subsequent calendar year such that the period of time any product will be considered a New Launch will range from thirteen to twenty-four months. Material products launched in 2016 include ezetimibe tablets (generic version of Zetia®), which is a first-to-file product with an associated brand value of approximately $2.6 billion, and quetiapine ER tablets (generic version of Seroquel® XR), which is a first-to-file product with an associated brand value of approximately $1.3 billion.

U.S. Branded Pharmaceuticals

The following table displays the U.S. product revenues to external customers in our U.S. Branded Pharmaceuticals for the years ended December 31 (in thousands):

	2016	2015	2014
Pain Management:			
Lidoderm®	$ 87,577	$ 125,269	$ 157,491
OPANA® ER	158,938	175,772	197,789
Percocet®	139,211	135,822	122,355
Voltaren® Gel	100,642	207,161	179,816
	$ 486,368	$ 644,024	$ 657,451
Specialty Pharmaceuticals:			
Supprelin® LA	$ 78,648	$ 70,099	$ 66,710
XIAFLEX®	189,689	158,115	—
	$ 268,337	$ 228,214	$ 66,710
Branded Other Revenues (1)	411,589	412,369	193,948
Actavis Royalty	—	—	51,328
Total U.S. Branded Pharmaceuticals (2)	$ 1,166,294	$ 1,284,607	$ 969,437

(1) Products included within Branded Other Revenues in the table above include, but are not limited to, TESTOPEL®, Testim®, Fortesta® Gel, including authorized generic, and Nascobal® Nasal Spray.

(2) Individual products presented above represent the top two performing products in each product category and/or any product having revenues in excess of $100.0 million during the years ended December 31, 2016, 2015 or 2014.

Pain Management

Lidoderm®. Lidoderm® was launched in September 1999. A topical patch product containing lidocaine, Lidoderm® was the first FDA approved product for the relief of the pain associated with post-herpetic neuralgia, a condition thought to result after nerve fibers are damaged during a case of Herpes Zoster (commonly known as shingles). In May 2012, we entered into a settlement and license agreement with Watson Pharmaceuticals, Inc. (Watson), subsequently acquired by Teva Pharmaceutical Industries (Teva), which allowed Watson to launch its lidocaine patch 5%, a generic version of Lidoderm® on September 15, 2013. In May 2014, the Company's U.S. Generic Pharmaceuticals segment launched its authorized generic of Lidoderm®. In August 2015, Mylan, Inc. (Mylan) launched a generic version of Lidoderm®.

OPANA® ER. OPANA® ER is an opioid agonist indicated for the management of pain severe enough to require daily, around-the-clock, long-term opioid treatment and for which alternative treatment options are inadequate. OPANA® ER represents the first drug in which oxymorphone is available in an oral, extended-release formulation and is available in 5 mg, 7.5 mg, 10 mg, 15 mg, 20 mg, 30 mg and 40 mg tablets. In December 2011, the FDA approved a new formulation of OPANA® ER with INTAC® technology. This formulation of OPANA® ER with INTAC® technology has the same dosage strengths, color and packaging and similar tablet size as original OPANA® ER. Endo transitioned to this formulation in March 2012 upon successfully accelerating its production. Launches of competing generic versions of the non-INTAC® technology formulation OPANA® ER, which began in early 2013, adversely affected our results of operations. The FDA has announced an upcoming Advisory Committee for Opana® ER and oxymorphone for March 2017. The Advisory Committee will likely discuss pre- and post-marketing data about the abuse of OPANA® ER, and the overall risk-benefit of this product. The Advisory Committee will also discuss abuse of generic oxymorphone ER and oxymorphone immediate-release (IR) products.

Percocet®. Launched in 1976, Percocet® is approved for the treatment of moderate-to-moderately severe pain.

Voltaren® Gel. On March 4, 2008, the Company entered into a License and Supply Agreement with and among Novartis AG and Novartis Consumer Health, Inc. (the 2008 Voltaren® Gel Agreement) to obtain the exclusive U.S. marketing rights for the prescription medicine Voltaren® Gel. On December 11, 2015, the Company, Novartis AG and Sandoz entered into a new License and Supply Agreement (the 2015 Voltaren® Gel Agreement) providing Endo with exclusive U.S. marketing and license rights to commercialize Voltaren® Gel and the authorized generic version of Voltaren® Gel through June 30, 2023. Voltaren® Gel received regulatory approval in October 2007 from the FDA, becoming the first topical prescription treatment for the relief of joint pain of osteoarthritis in the knees, ankles, feet, elbows, wrists, and hands and became the first new product approved in the U.S. for osteoarthritis since 2001. It was the first prescription topical osteoarthritis treatment to have proven its effectiveness in both the knees and joints of the hands through clinical trials. Voltaren® Gel delivers effective pain relief with a favorable safety profile as its systemic absorption is 94% less than the comparable oral diclofenac treatment. It is now the most prescribed FDA-approved topical nonsteroidal anti-inflammatory drug (NSAID) for the relief of osteoarthritis pain.

Specialty Pharmaceuticals

Supprelin® LA. Supprelin® LA was launched in the U.S. in June 2007. Supprelin® LA is a soft, flexible 12-month hydrogel implant based on our hydrogel polymer technology that delivers histrelin acetate, a gonadotropin releasing hormone (GnRH) agonist and is indicated for the treatment of CPP in children. CPP is the early onset of puberty in young children resulting in the development of secondary sex characteristics and, if left untreated, can result in diminished adult height attainment. The development of these secondary sex characteristics is due to an increase in the secretion of sex hormones, the cause of which is unknown. We market Supprelin® LA in the U.S. through a specialty sales force primarily to pediatric endocrinologists.

XIAFLEX®. XIAFLEX® was launched in 2010 for the treatment of adult patients with DC with an abnormal buildup of collagen in the fingers which limits or disables hand function. It is also indicated for the treatment of adult men with PD with a collagen plaque and a penile curvature deformity of thirty degrees or greater at the start of therapy. XIAFLEX® was launched in the U.S. for PD in January 2014 and is the first and only FDA-approved non-surgical treatment for PD.

Branded Other

Branded Other Revenues in the table above include but are not limited to the following products:

Fortesta® Gel and Fortesta® Gel Authorized Generic. Fortesta® Gel is a patented two percent (2%) testosterone transdermal gel and is a treatment for men suffering from hypogonadism, also known as low testosterone (Low-T). The precision-metered dose delivery system can be accurately customized and adjusted to meet individual patient needs with the appropriate dose. In August 2009, we entered into a License and Supply Agreement with Strakan International Limited, a subsidiary of ProStrakan Group plc, for the exclusive right to commercialize Fortesta® Gel in the U.S. Fortesta® Gel was approved by the FDA in December 2010. We launched Fortesta® Gel in the first quarter of 2011. During the third quarter of 2014, Endo announced that it had introduced the first and only generic 2% topical testosterone gel, an authorized generic of Fortesta® Gel.

Testim® and Testim® Authorized Generic. Testim® is a topical gel indicated for TRT in conditions associated with a deficiency or absence of endogenous testosterone.

Frova®. Frova® is indicated for the acute treatment of migraine headaches in adults.

Valstar®. Valstar® is a sterile solution for intravesical instillation of valrubicin, a chemotherapeutic anthracycline derivative. Valstar® is indicated for intravesical therapy of Bacillus Calmette-Guerin (BCG)-refractory carcinoma *in situ* (CIS) of the urinary bladder in patients for whom immediate cystectomy would be associated with unacceptable morbidity or mortality.

Vantas®. Vantas® is a soft, flexible 12-month hydrogel implant based on our hydrogel polymer technology that delivers histrelin acetate, a GnRH agonist, and is indicated for the palliative treatment of advanced prostate cancer.

Aveed®. Aveed® is a novel, long-acting testosterone undecanoate for injection for the treatment of Low-T. Aveed® is dosed only five times per year after the first month of therapy. In a clinical trial, nearly all men who received Aveed® maintained average testosterone levels within the normal range for 10 full weeks after the third injection. Aveed® was approved by the FDA and launched in March 2014.

TESTOPEL®. TESTOPEL® is a unique, long-acting implantable pellet indicated for TRT in conditions associated with a deficiency or absence of endogenous testosterone.

NASCOBAL® Nasal Spray. NASCOBAL® Nasal Spray is a prescription medicine used as a supplement to treat vitamin B_{12} deficiency. NASCOBAL® is the only FDA-approved B_{12} nasal spray. It is clinically proven to increase and maintain healthy B_{12} levels. NASCOBAL® is a tasteless and odorless fine mist with once-weekly dosing.

Actavis Royalty

Actavis Royalty. Royalty income from Actavis plc (Actavis) is based on Actavis' gross profit generated on sales of its generic version of Lidoderm®, which commenced on September 16, 2013 and ceased in May 2014, upon our launch of the Lidoderm® authorized generic.

International Pharmaceuticals

Our International Pharmaceuticals segment includes a variety of specialty pharmaceutical products for the Canadian, Mexican, South African and certain other non-U.S. markets.

Paladin, based in Canada, has a portfolio of products serving growing therapeutic areas, including ADHD, pain, women's health and oncology.

Somar, based in Mexico, develops, manufactures and markets high-quality generic, branded generic and over-the-counter products across key market segments including dermatology and anti-infectives.

Litha, based in South Africa, is a diversified healthcare group providing services, products and solutions to public and private hospitals, pharmacies, general and specialist practitioners, as well as government healthcare programs. During the fourth quarter of 2016, the Company initiated a process to sell its Litha and related Sub-Sahara African business assets and on February 27, 2017, the Company entered into a definitive agreement to sell Litha to Acino Pharma AG.

Select Products in Development

U.S. Generic Pharmaceuticals

Our primary approach to generic pharmaceutical product development is to target high-barrier-to-entry generic products, including first-to-file or first-to-market opportunities. Our potential first-to-file and first-to-market opportunities account for approximately one-third of our pipeline of ANDAs. We expect that these potential first-to-file and first-to-market opportunities to result in products that are either exclusive or have two or fewer competitors when launched, which we believe tends to lead to more sustainable market share and profitability for our product portfolio.

As of December 31, 2016, we had over 200 products in our pipeline, which included approximately 120 ANDAs pending with the FDA representing approximately $32.0 billion of combined annual sales for the corresponding branded products in 2016, including 35 potential first-to-file and four first-to-market opportunities.

U.S. Branded Pharmaceuticals

XIAFLEX® (collagenase clostridium histolyticum or CCH) is currently approved and marketed in the U.S. for the treatment of both DC and PD (two separate indications). We are progressing the cellulite development program following meetings held with the FDA in December 2014 and a subsequent follow-up meeting in December 2015. In addition, our Phase 2b study was initiated and completed and the results were released in November 2016. An End of Phase 2 meeting with the FDA occurred in early 2017 and we will continue to work with the FDA in advance of initiating our Phase 3 clinical trials. We also have the right to further develop XIAFLEX® for additional indications, including Dupuytren's Nodules, Adhesive Capsulitis and Lateral Hip Fat, Plantar Fibromatosis and human and canine lipomas.

International Pharmaceuticals

We have submitted applications for regulatory approval of various products in our international markets. In addition, RLX030 (serelaxin) is currently undergoing human clinical trials. RLX030 is a novel treatment for acute heart failure and Phase II and III studies suggested RLX030 helped patients with acute heart failure live longer. Trial results are expected in the second quarter of 2017.

Competition

Generic Pharmaceuticals

In the generic pharmaceutical market, we face intense competition from other generic drug manufacturers, brand name pharmaceutical companies through authorized generics, existing brand equivalents and manufacturers of therapeutically similar drugs. Our major competitors in the generics market, including Teva, Mylan, Sandoz and Impax Laboratories, Inc. (Impax), vary by specific product.

Our primary strategy is to compete in the generic product market with a focus on high-value, first-to-file or first-to-market opportunities, regardless of therapeutic category, and products that present significant barriers to entry for reasons such as complex formulation or regulatory or legal challenges. By specializing in high-barrier-to-entry products, we endeavor to market more profitable and longer-lived products relative to commodity generic products. We believe that our competitive advantages include our integrated team-based approach to product development that combines our formulation, regulatory, legal, manufacturing and commercial capabilities; our ability to introduce new generic equivalents for brand-name drugs; our quality and cost-effective production; our ability to meet customer expectations; and the breadth of our existing generic product portfolio offering.

We make a significant portion of our sales to a relatively small number of drug wholesalers and retail drug store chains. These customers play a key role in the distribution chain of our pharmaceutical products. Drug wholesalers and retail drug store chains have undergone, and are continuing to undergo, significant consolidation, which has resulted in these groups gaining additional purchasing leverage that has increased the pricing pressures on our business. Additionally, the emergence of large buying groups representing independent retail pharmacies and other drug distributors, and the prevalence and influence of managed care organizations and similar institutions, enable those groups to demand larger price discounts on our products. For example, there has been a recent trend of large retail customers forming partnerships with large wholesalers, such as the alliances between Walgreens and AmerisourceBergen Corporation, between Rite Aid and McKesson Drug Company and between CVS and Cardinal Health. As a result of these alliances, as well as the consolidation among wholesale distributors and the growth of large retail drug store chains, a small number of purchasers control a significant share of purchases and have gained more purchasing power that has heightened competition among generic drug producers for the business of this consolidated customer base.

Newly introduced generic products with limited or no other generic competition typically garner higher prices relative to commoditized generic products. At the expiration of any statutory generic exclusivity period, other generic distributors may enter the market, resulting in significant price declines. Consequently, the maintenance of profitable operations in generic pharmaceuticals depends, in part, on our continuing ability to select, develop, procure regulatory approvals of, overcome legal challenges to, launch and commercialize new generic products in a timely and cost efficient manner and to maintain efficient, high quality manufacturing capabilities. We also have diverse manufacturing capabilities covering almost all generic presentations, such as solid oral dose, gels, liquids, nasal sprays, ophthalmics, films, transdermal patches and injectable products.

Branded Pharmaceuticals

The branded pharmaceutical industry is highly competitive. Our products compete with products manufactured by many other companies in highly competitive markets throughout the U.S. and internationally primarily through our Paladin, Somar and Litha businesses. Our competitors vary depending upon therapeutic and product categories. Competitors include many of the major brand name and generic manufacturers of pharmaceuticals. With respect to branded pharmaceuticals, our competitors, including Abbott Laboratories (Abbott), Allergan plc (Allergan), Purdue Pharma, L.P. (Purdue), Jazz Pharmaceuticals plc (Jazz), Shire plc (Shire), Horizon Pharma plc (Horizon), and Mallinckrodt plc (Mallinckrodt), among others, vary depending on product category, dosage strength and drug-delivery systems.

We compete principally through targeted product development and our acquisition and in-licensing strategies. The competitive landscape in the acquisition and in-licensing of pharmaceutical products has intensified in recent years as there has been a reduction in the number of compounds available and an increase in the number of companies and the collective resources bidding on available assets. In addition to product development and acquisitions, other competitive factors in the pharmaceutical industry include product efficacy, safety, ease of use, price, demonstrated cost-effectiveness, marketing effectiveness, service, reputation and access to technical information.

The competitive environment of the branded product business requires us to continually seek out technological innovations and to market our products effectively. However, some of our current branded products face competition not only from other brands, but also from generic versions. Generic versions are generally significantly less expensive than branded versions, and, where available, may be required in preference to the branded version under third-party reimbursement programs, or substituted by pharmacies. If competitors introduce new products, delivery systems or processes with therapeutic or cost advantages, our products can be subject to progressive price reductions or decreased volume of sales, or both. Most new products that we introduce must compete with other products already on the market or products that are later developed by competitors. Manufacturers of generic pharmaceuticals typically invest far less in research and development than research-based pharmaceutical companies and therefore can price their products significantly lower than branded products. Accordingly, when a branded product loses its market exclusivity, it normally faces intense price competition from generic forms of the product. To successfully compete for business with managed care and pharmacy benefits management organizations, we must often demonstrate that our products offer not only medical benefits but also cost advantages as compared with other forms of care.

We are aware of certain competitive activities involving OPANA® ER and other products. For a description of these competitive activities, including the litigation related to Paragraph IV Certification Notices, see Note 14. Commitments and Contingencies in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

Seasonality

Although our business is affected by the purchasing patterns and concentration of our customers, our business is not materially impacted by seasonality.

Major Customers

We primarily sell our generic and branded pharmaceuticals to wholesalers, drug store chains, supermarket chains, mass merchandisers, distributors, mail order accounts, hospitals and government agencies. Our wholesalers and distributors purchase products from us and, in turn, supply products to retail drug store chains, independent pharmacies and managed health care organizations. Customers in the managed health care market include health maintenance organizations, nursing homes, hospitals, clinics, pharmacy benefit management companies and mail order customers. Total revenues from customers that accounted for 10% or more of our total consolidated revenues during the years ended December 31 are as follows:

	2016	2015	2014
Cardinal Health, Inc.	26%	21%	21%
McKesson Corporation	27%	31%	31%
AmerisourceBergen Corporation	25%	23%	16%

Revenues from these customers are included within our U.S. Generic Pharmaceuticals, U.S. Branded Pharmaceuticals, and International Pharmaceuticals segments.

As a result of consolidation among wholesale distributors as well as rapid growth of large retail drug store chains, a small number of large wholesale distributors control a significant share of the market, and the number of independent drug stores and small drug store chains has decreased. Some wholesale distributors have demanded that pharmaceutical manufacturers, including us, enter into distribution service agreements (DSAs) pursuant to which the wholesale distributors provide the pharmaceutical manufacturers with specific services, including the provision of periodic retail demand information and current inventory levels and other information. We have entered into certain of these agreements.

Revenue related to independent specialty pharmacies during the year ended December 31, 2016 was approximately 4% of the Company's overall 2016 revenue.

Patents, Trademarks, Licenses and Proprietary Property

As of February 21, 2017, we held approximately: 246 U.S. issued patents, 67 U.S. patent applications pending, 553 foreign issued patents, and 158 foreign patent applications pending. In addition, as of February 21, 2017, we have licenses for approximately 59 U.S. issued patents, 38 U.S. patent applications pending, 210 foreign issued patents and 85 foreign patent applications pending. The following table sets forth information as of February 21, 2017 regarding patents relating to each of our most significant products:

Patent No.	Patent Expiration*	Relevant Product	Ownership	Jurisdiction Where Granted
8,075,872	November 20, 2023	OPANA® ER	Exclusive License	USA
8,114,383	October 10, 2024	OPANA® ER	Exclusive License	USA
8,192,722	September 15, 2025	OPANA® ER	Exclusive License	USA
8,309,060	November 20, 2023	OPANA® ER	Exclusive License	USA
8,309,122	February 4, 2023	OPANA® ER	Owned	USA
8,329,216	February 4, 2023	OPANA® ER	Owned	USA
8,808,737	June 21, 2027	OPANA® ER	Owned	USA
8,871,779	November 22, 2029	OPANA® ER	Exclusive License	USA
7,718,640	March 14, 2027	Aveed®	Exclusive License	USA
8,338,395	February 27, 2026	Aveed®	Exclusive License	USA
RE39,941	August 24, 2019	XIAFLEX®	Exclusive License	USA
6,022,539	June 3, 2019	XIAFLEX®	Exclusive License	USA
7,811,560	July 12, 2028	XIAFLEX®	Owned; Exclusive License	USA
7,229,636	August 1, 2024	Nascobal®	Owned	USA
7,404,489	March 12, 2024	Nascobal®	Owned	USA
7,879,349	August 1, 2024	Nascobal®	Owned	USA
8,003,353	August 1, 2024	Nascobal®	Owned	USA
8,940,714	February 26, 2024	Nascobal®	Owned	USA
9,375,478	January 30, 2035	Vasostrict®	Owned	USA

* Our exclusive license agreements extend to or beyond the patent expiration dates.

The effect of these issued patents is that they provide us with patent protection for the claims covered by the patents. The coverage claimed in a patent application can be significantly reduced before the patent is issued. Accordingly, we do not know whether any of the applications we acquire or license will result in the issuance of patents, or, if any patents are issued, whether they will provide significant proprietary protection or will be challenged, circumvented or invalidated. Because unissued U.S. patent applications are maintained in secrecy for a period of eighteen months and U.S. patent applications filed prior to November 29, 2000 are not disclosed until such patents are issued, and since publication of discoveries in the scientific or patent literature often lags behind actual discoveries, we cannot be certain of the priority of inventions covered by pending patent applications. Moreover, we may have to participate in interference and other inter parties proceedings declared by the PTO to determine priority of invention, or in opposition proceedings in a foreign patent office, either of which could result in substantial cost to us, even if the eventual outcome is favorable to us. There can be no assurance that any patents, if issued, will be held valid by a court of competent jurisdiction. An adverse outcome could subject us to significant liabilities to third parties, require disputed rights to be licensed from third parties or require us to cease using such technology.

We believe that our patents, the protection of discoveries in connection with our development activities, our proprietary products, technologies, processes and know-how and all of our intellectual property are important to our business. All of our branded products and certain generic products, such as Endocet® and Endodan® are sold under trademarks. To achieve a competitive position, we rely on trade secrets, non-patented proprietary know-how and continuing technological innovation, where patent protection is not believed to be appropriate or attainable. In addition, as outlined above, we have a number of patent licenses from third parties, some of which may be important to our business. See Note 11. License and Collaboration Agreements in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules". There can be no assurance that any of our patents, licenses or other intellectual property rights will afford us any protection from competition.

We rely on confidentiality agreements with our employees, consultants and other parties to protect, among other things, trade secrets and other proprietary technology. There can be no assurance that these agreements will not be breached, that we will have adequate remedies for any breach, that others will not independently develop equivalent proprietary information or that other third parties will not otherwise gain access to our trade secrets and other intellectual property.

We may find it necessary to initiate litigation to enforce our patent rights, to protect our intellectual property or to determine the scope and validity of the proprietary rights of others. Litigation is costly and time-consuming, and there can be no assurance that our litigation expenses will not be significant in the future or that we will prevail in any such litigation. See Note 14. Commitments and Contingencies in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

Governmental Regulation

United States Food and Drug Administration and Drug Enforcement Administration

In the United States, the development, testing, manufacture, holding, packaging, labeling, distribution, marketing, and sales of our products and our ongoing product development activities are subject to extensive and rigorous government regulation. The Federal Food, Drug, and Cosmetic Act (FFDCA), the Controlled Substances Act (CSA) and other federal and state statutes and regulations govern or influence the testing, manufacture, packaging, labeling, storage, record keeping, approval, advertising, promotion, sale and distribution of pharmaceutical products. Noncompliance with applicable requirements can result in fines, recall or seizure of products, total or partial suspension of production and/or distribution, injunctions, refusal of the government to enter into supply contracts or to approve NDAs, ANDAs and Biologics License Applications (BLAs), civil penalties and criminal prosecution.

FDA approval is typically required before any new drug can be marketed. An NDA or BLA is a filing submitted to the FDA to obtain approval of new chemical entities and other innovations for which thorough applied research is required to demonstrate safety and effectiveness in use. The process generally involves:

- Completion of preclinical laboratory and animal testing and formulation studies in compliance with the FDA's Good Laboratory Practice (GLP) regulations;
- Submission to the FDA of an Investigational New Drug (IND) application for human clinical testing, which must become effective before human clinical trials may begin in the U.S.;
- Approval by an independent institutional review board (IRB) before each trial may be initiated, and continuing review during the trial;
- Performance of human clinical trials, including adequate and well-controlled clinical trials in accordance with good clinical practices (GCPs) to establish the safety and efficacy of the proposed drug product for each intended use;
- Submission of an NDA or BLA to the FDA;
- Satisfactory completion of an FDA pre-approval inspection of the product's manufacturing processes and facility or facilities to assess compliance with the FDA's current Good Manufacturing Practice (cGMP) regulations, and/or review of the Chemistry, Manufacturing, and Controls (CMC) section of the NDA or BLA to require that the facilities, methods and controls are adequate to preserve the drug's identity, strength, quality, purity and potency;

- Satisfactory completion of an FDA advisory committee review, if applicable; and
- Approval by the FDA of the NDA or BLA.

Clinical trials are typically conducted in three sequential phases, although the phases may overlap.

- Phase I generally involves testing the product for safety, adverse effects, dosage, tolerance, absorption, distribution, metabolism, excretion and other elements of clinical pharmacology.
- Phase II trials typically involve a small sample of the intended patient population to assess the efficacy of the compound for a specific indication, to determine dose tolerance and the optimal dose range as well as to gather additional information relating to safety and potential adverse effects.
- Phase III trials are undertaken in an expanded patient population at typically dispersed study sites, in order to determine the overall risk-benefit ratio of the compound and to provide an adequate basis for product labeling.

Each trial is conducted in accordance with certain standards under protocols that detail the objectives of the study, the parameters to be used to monitor safety and efficacy criteria to be evaluated. Each protocol must be submitted to the FDA as part of the IND.

Data from preclinical testing and clinical trials are submitted to the FDA in an NDA or BLA for marketing approval and to foreign government health authorities in a marketing authorization application, consistent with each health authority's specific regulatory requirements. Clinical trials are also subject to regulatory inspections by the FDA and other regulatory authorities to confirm compliance with applicable regulatory standards. The process of completing clinical trials for a new drug may take many years and require the expenditures of substantial resources. See Item 1A. Risk Factors - "The pharmaceutical industry is heavily regulated, which creates uncertainty about our ability to bring new products to market and imposes substantial compliance costs on our business," for further discussion on FDA approval. As a condition of approval, the FDA or foreign regulatory authorities may require further studies, including Phase IV post-marketing studies or post-marketing data reporting. Results of post-marketing programs may limit or expand the further marketing of the products.

For some drugs, the FDA may require a Risk Evaluation and Mitigation Strategy (REMS), which could include medication guides, physician communication plans, or other elements to make certain safe use. In February 2009, the FDA sent letters to manufacturers of certain opioid drug products, indicating that these drugs will be required to have a REMS designed to reduce risks and improve the safe use of certain opioid drug products. Three products sold by Endo were included in the list of affected opioid drugs: OPANA® ER, morphine sulfate ER and oxycodone ER. In 2011, the FDA sent another letter requiring that the manufacturers of these drugs develop and submit to the FDA a post-market REMS plan. The FDA approved a class-wide extended-release/long-acting REMS in July 2012. The goal of this REMS is to reduce serious adverse outcomes resulting from inappropriate prescribing, misuse and abuse of extended-release or long-acting opioid analgesics while maintaining patient access to pain medications. Since that 2009 letter and the 2012 REMS, the company began selling BELBUCA™, and acquired the products fentanyl transdermal system and oxymorphone hydrochloride through its subsidiary Par, all of which are subject to the 2012 REMS. In December 2016, Endo announced that it was returning BELBUCA™ to BDSI. The REMS includes a Medication Guide, Elements to Assure Safe Use and annual REMS Assessment Reports. See Item 1A. Risk Factors - "The pharmaceutical industry is heavily regulated, which creates uncertainty about our ability to bring new products to market and imposes substantial compliance costs on our business," for further discussion. In recent years, the FDA has taken steps to reduce the maximum strength of acetaminophen in prescription combination drug products to help reduce or prevent the risk of liver injury from an unintentional overdose of acetaminophen. Among the Company's products impacted by the FDA's actions were three branded combination drug pain relief products: Percocet®, Endocet® and Zydone®; and the generic combination drug pain relief products: butalbital/acetaminophen/caffeine, hydrocodone/acetaminophen and oxycodone/acetaminophen.

In most instances, FDA approval of an ANDA is required before a generic equivalent of an existing or reference-listed drug can be marketed. The ANDA process is abbreviated in that the FDA waives the requirement of conducting complete preclinical and clinical studies and generally instead relies principally on bioequivalence studies. Bioequivalence generally involves a comparison of the rate of absorption and levels of concentration of a generic drug in the body with those of the previously approved drug. When the rate and extent of absorption of systemically acting test and reference drugs are considered the same under the bioequivalence requirement, the two drugs are considered bioequivalent and are generally regarded as therapeutically equivalent, meaning that a pharmacist can substitute the product for the reference-listed drug. Under certain circumstances, an ANDA may also be submitted for a product authorized by approval of an ANDA suitability petition. Such petitions may be submitted to secure authorization to file an ANDA for a product that differs from a previously approved drug in active ingredient, route of administration, dosage form or strength. In September 2007 and July 2012, Congress re-authorized pediatric testing legislation, which now requires ANDAs approved via the suitability petition route to conduct pediatric testing. The timing of final FDA approval of ANDA applications depends on a variety of factors, including whether the applicant challenges any listed patents for the drug and whether the manufacturer of the reference listed drug is entitled to one or more statutory exclusivity periods, during which the FDA is prohibited from approving generic products. In certain circumstances, a regulatory exclusivity period can extend beyond the life of a patent, and thus block ANDAs from being approved on the patent expiration date.

Certain of our products are or in the future could be regulated and marketed as biologic products pursuant to BLAs. Our BLA-licensed products were licensed based on a determination by the FDA of safety, purity, and potency as required under the Public Health Service Act (PHSA). Although the ANDA framework referenced above does not apply to generics of BLA-licensed biologics, in 2010, Congress enacted the Biologics Price Competition and Innovation Act of 2009 (BPCIA), as part of the Patient Protection and Affordable Care Act (PPACA), which amended the PHSA to create an abbreviated licensure pathway for products deemed to be biosimilar to or interchangeable with FDA-licensed reference biological products. Under the BPCIA, following the expiration of a 12-year reference exclusivity period, FDA may license under section 351(k) of the PHSA a biologic that it determines is biosimilar to or interchangeable with a reference product licensed under section 351(a) of the PHSA. Biosimilarity is defined to mean that the section 351(k) product is highly similar to the reference product notwithstanding minor differences in clinically inactive components and that there are no clinically meaningful differences between the section 351(k) product and the reference product in terms of the safety, purity, and potency of the product. To be considered interchangeable, a product must be biosimilar to the reference product, be expected to produce the same clinical result as the reference product in any given patient, and, if administered more than once to an individual, the risks in terms of safety or diminished efficacy of alternating or switching between use of the product and its reference product is not greater than the risk of using the reference product without such alternation or switch.

Once any reference exclusivity period for our BLA-licensed biologics expires, FDA may approve under section 351(k) of the PHSA another company's BLA for a biosimilar or interchangeable version of our product. Although licensure of a biosimilar or interchangeable under section 351(k) is generally expected to require less than the full complement of product-specific preclinical and clinical data required for innovator products licensed under section 351(a), FDA has considerable discretion over the kind and amount of scientific evidence required to demonstrate biosimilarity and interchangeability, and the agency has yet to issue regulations setting forth specific criteria for licensure of biosimilar or interchangeable products.

Based on scientific developments, post-market experience, or other legislative or regulatory changes, the current FDA standards of review for approving new pharmaceutical products are sometimes more stringent than those that were applied in the past, including to certain opioid products. As a result, the FDA does not have as extensive safety databases on these products as on some products developed more recently. Accordingly, we believe the FDA has expressed an intention to develop such databases for certain of these products, including many opioids.

The 21st Century Cures Act (Cures Act) was signed into law on December 13, 2016. The Cures Act includes various provisions to accelerate the development and delivery of new treatments, such as those intended to expand the types of evidence manufacturers may submit to support FDA drug approval, to encourage patient-centered drug development, to liberalize the communication of healthcare economic information (HCEI) to payers, and to create greater transparency with regard to manufacturer expanded access programs. Central to the Cures Act are provisions that enhance and accelerate FDA's processes for reviewing and approving new drugs and supplements to approved new drug applications (NDAs). These include, but are not limited to, provisions that (i) require FDA to establish a program to evaluate the potential use of real world evidence to help to support the approval of a new indication for an approved drug and to help to support or satisfy post-approval study requirements, (ii) provide that FDA may rely upon qualified data summaries to support the approval of a supplemental application with respect to a qualified indication for an already approved drug, (iii) require FDA to issue guidance for purposes of assisting sponsors in incorporating complex adaptive and other novel trial designs into proposed clinical protocols and applications for new drugs, and (iv) require FDA to establish a process for the qualification of drug development tools for use in supporting or obtaining FDA approval for or investigational use of a drug.

The Cures Act also includes $1 billion in new funding to address what the Act refers to as the "opioid abuse crisis." Specifically, the Cures Act authorizes the awarding of grants to states for the purpose of addressing opioid abuse within each state, with preference to be given to states with an incidence or prevalence of opioid use disorders that is substantially higher relative to other states. Funding would be provided for states to supplement opioid abuse prevention and treatment activities, such as improving prescription drug monitoring programs, implementing prevention activities, training for health care providers, and expanding access to opioid treatment programs. States receiving such grants would be required to report on activities funded by the grant in the substance abuse block grant report.

We cannot determine what effect changes in the FDA's laws or regulations (including legal or regulator interpretations), when and if promulgated, or upcoming advisory committee meetings, may have on our business in the future. Changes could, among other things, require expanded or different labeling, additional testing, the recall or discontinuance of certain products, and additional record keeping. Such changes could have a material adverse effect on our business, financial condition, results of operations and cash flows. See Item 1A. Risk Factors - "The pharmaceutical industry is heavily regulated, which creates uncertainty about our ability to bring new products to market and imposes substantial compliance costs on our business," for further discussion. In September 2013, the FDA announced class-wide safety labeling changes and new post-market study requirements for all extended-release and long-acting (ER/LA) opioids. Among other things, the updated indication states that because of the risks of addiction, abuse, and misuse, even at recommended doses, and because of the greater risks of overdose and death, these drugs should be reserved for use in patients for whom alternative treatment options are ineffective, not tolerated, or would be otherwise inadequate to provide sufficient management of pain; ER/LA opioid analgesics are not indicated for as-needed pain relief. The FDA is also requiring drug companies that make these products to conduct further studies and clinical trials to further assess the known serious risks of misuse, abuse, increased sensitivity to pain (hyperalgesia), addiction, overdose, and death. It is not presently known what impact, if any, these changes to the indications for use or results from the post-marketing studies may have on our business, financial position, results of operations and cash flows.

A sponsor of an NDA is required to identify in its application any patent that claims the drug or a use of the drug subject to the application. Upon NDA approval, the FDA lists these patents in a publication referred to as the Orange Book. Any person that files a Section 505(b)(2) NDA must make a certification in respect to listed patents, the type of NDA that may rely upon the data in the application for which the patents are listed, or an ANDA to secure approval of a generic version of this first, or listed drug. The FDA may not approve such an application for the drug until expiration of the listed patents unless (1) the generic applicant certifies that the listed patents are invalid, unenforceable or not infringed by the proposed generic drug and gives notice to the holder of the NDA for the listed drug of the basis upon which the patents are challenged, and (2) the holder of the listed drug does not sue the later applicant for patent infringement within 45 days of receipt of notice. Under the current law, if an infringement suit is filed, the FDA may not approve the later application until the earliest of: 30 months after submission; entry of an appellate court judgment holding the patent invalid, unenforceable or not infringed; such time as the court may order; or the patent expires.

One of the key motivators for challenging patents is the 180-day market exclusivity period vis-á-vis other generic applicants granted to the developer of a generic version of a product that is the first to have its application accepted for filing by the FDA and whose filing includes a certification that the applicable patent(s) are invalid, unenforceable and/or not infringed (a Paragraph IV certification) and that prevails in litigation with the manufacturer of the branded product over the applicable patent(s). Under the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (2003 Medicare Act), with accompanying amendments to the Hatch-Waxman Act (Drug Price Competition and Patent Term Restoration Act), this marketing exclusivity would begin to run upon the earlier of the commercial launch of the generic product or upon an appellate court decision in the generic company's favor. In addition, the holder of the NDA for the listed drug may be entitled to certain non-patent exclusivity during which the FDA cannot approve an application for a competing generic product or 505(b)(2) NDA product.

The FDA enforces regulations to require that the methods used in, and the facilities and controls used for, the manufacture, processing, packing and holding of drugs conform to cGMPs. The cGMP regulations the FDA enforces are comprehensive and cover all aspects of manufacturing operations. Compliance with the regulations requires a continuous commitment of time, money and effort in all operational areas.

The FDA conducts pre-approval inspections of facilities engaged in the development, manufacture, processing, packing, testing and holding of the drugs subject to NDAs and ANDAs. In addition, manufacturers of both pharmaceutical products and active pharmaceutical ingredients (APIs) used to formulate the drug also ordinarily undergo a pre-approval inspection. Failure of any facility to pass a pre-approval inspection will result in delayed approval and would have a material adverse effect on our business, results of operations, financial condition and cash flows.

The FDA also conducts periodic inspections of drug facilities to assess the cGMP status of marketed products. Following such inspections, the FDA may issue an untitled letter as an initial correspondence that cites violations that do not meet the threshold of regulatory significance for a Warning Letter. FDA guidelines also provide for the issuance of Warning Letters for violations of "regulatory significance" for which the failure to adequately and promptly achieve correction may be expected to result in an enforcement action. Finally, the FDA could issue a Form 483 Notice of Inspectional Observations, which could cause us to modify certain activities identified during the inspection. If the FDA were to find serious cGMP non-compliance during such an inspection, it could take regulatory actions that could adversely affect our business, results of operations, financial condition and cash flows. Imported API and other components needed to manufacture our products could be rejected by U.S. Customs. In respect to domestic establishments, the FDA could initiate product seizures or request or in some instances require product recalls and seek to enjoin or otherwise limit a product's manufacture and distribution. In certain circumstances, violations could support civil penalties and criminal prosecutions. In addition, if the FDA concludes that a company is not in compliance with cGMP requirements, sanctions may be imposed that include preventing that company from receiving the necessary licenses to export its products and classifying that company as an unacceptable supplier, thereby disqualifying that company from selling products to federal agencies.

Certain of our subsidiaries sell products that are "controlled substances" as defined in the CSA and implementing regulations, which establish certain security and record keeping requirements administered by the Drug Enforcement Administration (DEA). The DEA regulates controlled substances as Schedule I, II, III, IV or V substances, with Schedule I and II substances considered to present the highest risk of substance abuse and Schedule V substances the lowest risk. The active ingredients in some of our current products and products in development, including oxycodone, oxymorphone, buprenorphine, morphine, fentanyl and hydrocodone, are listed by the DEA as Schedule II or III substances under the CSA. Consequently, their manufacture, shipment, storage, sale and use are subject to a high degree of regulation. Since October 2014, hydrocodone combination products have been rescheduled by the DEA as Schedule II, which imposes additional access restrictions of these products and could ultimately impact our sales.

The DEA limits the availability of the active ingredients used in many of our current products and products in development, as well as the production of these products, and we, or our contract manufacturing organizations, must annually apply to the DEA for procurement and production quotas in order to obtain and produce these substances. As a result, our quotas may not be sufficient to meet commercial demand or complete clinical trials. Moreover, the DEA may adjust these quotas from time to time during the year, although the DEA has substantial discretion in whether or not to make such adjustments. See Item 1A. Risk Factors - "The DEA limits the availability of the active ingredients used in many of our current products and products in development, as well as the production of these products, and, as a result, our procurement and production quotas may not be sufficient to meet commercial demand or complete clinical trials," for further discussion on DEA regulations. To meet its responsibilities, the DEA conducts periodic inspections of registered establishments that handle controlled substances. Annual registration is required for any facility that manufactures, tests, distributes, dispenses, imports or exports any controlled substance. The facilities must have the security, control and accounting mechanisms required by the DEA to prevent loss and diversion of controlled substances. Failure to maintain compliance can result in enforcement action that could have a material adverse effect on our business, results of operations, financial condition and cash flows. The DEA may seek civil penalties, refuse to renew necessary registrations, or initiate proceedings to revoke or restrict those registrations. In certain circumstances, violations could eventuate in criminal proceedings.

Individual states also regulate controlled substances, and we, as well as our third-party API suppliers and manufacturers, are subject to such regulation by several states with respect to the manufacture and distribution of these products.

Government Benefit Programs

As described further in Item 1A. Risk Factors, statutory and regulatory requirements for Medicaid, Medicare, TRICARE and other government healthcare programs govern access and provider reimbursement levels, and provide for other cost-containment measures such as requiring pharmaceutical companies to pay rebates or refunds for certain sales of products reimbursed by such programs, or subjecting sales of their products to certain price ceilings. In addition to the cost-containment measures described in Item 1A. Risk Factors, a final rule promulgated and reissued by the U.S. Department of Defense (DOD) in October 2010 subjects drug sales to retail pharmacies under the TRICARE Retail Pharmacy Program to certain price ceilings. Specifically, under the final rule, manufacturers are required, among other things, to pay refunds for prescriptions filled beginning on January 28, 2008 and extending to future periods based on the applicable ceiling price limits. Beginning in the first quarter of 2017, a provision in the Bipartisan Budget Act of 2015 will also require drug manufacturers to pay additional rebates to State Medicaid programs if the prices of their non-innovator drugs rise at a rate faster than inflation (as continues to be the case for innovator products).

The federal and/or state governments may continue to enact measures in the future aimed at containing or reducing payment levels for prescription pharmaceuticals paid for in whole or in part with government funds. We cannot predict the nature of this or other such measures or their impact on our profitability and cash flows. These efforts could, however, have material consequences for the pharmaceutical industry and the Company.

From time to time, legislative changes are made to government healthcare programs that impact our business. Congress continues to examine various Medicare and Medicaid policy proposals that may result in a downward pressure on the prices of prescription drugs in these programs. See Item 1A. Risk Factors - "The availability of third party reimbursement for our products is uncertain, and thus we may find it difficult to maintain current price levels. Additionally, the market may not accept those products for which third party reimbursement is not adequately provided," for further discussion on Medicare and Medicaid reimbursements.

In March 2010, President Obama signed into law PPACA that has made major changes to the healthcare system. One such change is the requirement that pharmaceutical manufacturers of branded prescription drugs must pay an annual fee to the federal government. Each individual pharmaceutical manufacturer must pay a prorated share of the total industry fee (the fee is $3 billion for 2016, $4 billion for 2017 and $4.1 billion for 2018, decreasing to $2.8 billion for years thereafter) based on the dollar value of its branded prescription drug sales to specified federal programs. PPACA also expanded health insurance coverage to many previously uninsured Americans, through a combination of federal subsidies for lower-income individuals who enrolled in health plans through health insurance exchanges and enabling states to expand Medicaid eligibility with the federal government paying a high share of the cost.

Following the November 2016 U.S. elections, uncertainty exists about the future of this insurance coverage expansion; the current executive branch administration and congressional leaders have expressed interest in repealing these PPACA provisions and replacing them with alternatives that may be less costly and provide state Medicaid programs and private health plans more flexibility. If PPACA is repealed and/or replaced in whole or in part, it is possible that many of the reforms implemented as part of PPACA, including those affecting the pharmaceutical industry, may be repealed or amended as a result.

Healthcare Fraud and Abuse Laws

We are subject to various federal, state and local laws targeting fraud and abuse in the healthcare industry, violations of which can lead to civil and criminal penalties, including fines, imprisonment and exclusion from participation in federal healthcare programs. These laws are potentially applicable to us as both a manufacturer and a supplier of products reimbursed by federal healthcare programs, and they also apply to hospitals, physicians and other potential purchasers of our products.

The federal Anti-Kickback Statute (42 U.S.C. § 1320a-7b(b)) prohibits persons from knowingly and willfully soliciting, receiving, offering or providing remuneration, directly or indirectly, to induce either the referral of an individual, or the furnishing, recommending, or arranging for a good or service, for which payment may be made under a federal healthcare program such as the Medicare and Medicaid programs. Remuneration is not defined in the federal Anti-Kickback Statute and has been broadly interpreted to include anything of value, including for example, gifts, discounts, coupons, the furnishing of supplies or equipment, credit arrangements, payments of cash, waivers of payments, ownership interests and providing anything at less than its fair market value. Under the federal Anti-Kickback Statute and the applicable criminal healthcare fraud statutes contained within 42 U.S.C. § 1320a-7b a person or entity need not have actual knowledge of this statute or specific intent to violate it in order to have committed a violation. In addition, the government may assert that a claim, including items or services resulting from a violation of 42 U.S.C. § 1320a-7b, constitutes a false or fraudulent claim for purposes of the civil False Claims Act (discussed below) or the civil monetary penalties statute, which imposes fines against any person who is determined to have presented or caused to be presented claims to a federal healthcare program that the person knows or should know is for an item or service that was not provided as claimed or is false or fraudulent. The federal Anti-Kickback Statute and implementing regulations provide for certain exceptions for "safe harbors" for certain discounting, rebating, or personal services arrangements, among other things. However, the lack of uniform court interpretation of the Anti-Kickback Statute makes compliance with the law difficult. Violations of the federal Anti-Kickback Statute can result in significant criminal fines, exclusion from participation in Medicare and Medicaid, and follow-on civil litigation, among other things, for both entities and individuals.

Other federal healthcare fraud-related laws also provide criminal liability for violations. The Criminal Healthcare Fraud statute, 18 U.S.C. § 1347 prohibits knowingly and willfully executing a scheme to defraud any healthcare benefit program, including private third-party payers. Federal criminal law at 18 U.S.C. § 1001, among other sections, prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services. See Item 1A. Risk Factors - "We are subject to various regulations pertaining to the marketing of our products and services," for further discussion on the Anti-Kickback Statute.

The civil False Claims Act and similar state laws impose liability on any person or entity who, among other things, knowingly presents, or causes to be presented, a false or fraudulent claim for payment by a federal healthcare program. The qui tam provisions of the False Claims Act and similar state laws allow a private individual to bring civil actions on behalf of the federal or state government and to share in any monetary recovery. The Federal Physician Payments Sunshine Act and similar state laws impose reporting requirements for various types of payments to physicians and teaching hospitals. Failure to comply with required reporting requirements under these laws could subject manufacturers and others to substantial civil money penalties. In addition, government entities and private litigants have asserted claims under state consumer protection statutes against pharmaceutical and medical device companies for alleged false or misleading statements in connection with the marketing, promotion and/or sale of pharmaceutical and medical device products, including state investigations of the Company regarding the Company's vaginal mesh devices and investigations and litigation by certain government entities regarding the Company's marketing of opioid products.

International Regulations

Our growing international operations have increased our interaction with regulatory authorities in other countries and made the Company subject to laws and regulations that differ from those under which the Company operates in the United States. In most cases, these regulatory agencies evaluate and monitor the safety, efficacy and quality of pharmaceutical products, govern the approval of clinical trials and product registrations, and regulate pricing and reimbursement. Many of these markets have differing product preferences and requirements, and operate in an environment of government-mandated, cost-containment programs, including price controls. Several governments have placed restrictions on physician prescription levels and patient reimbursements, emphasized greater use of generic drugs and enacted across-the-board price cuts as methods of cost control.

Whether or not FDA approval has been obtained for a product, approval of the product by comparable regulatory authorities of other countries must be obtained prior to marketing the product in those countries. The approval process may be more or less rigorous from country to country, and the time required for approval may be longer or shorter than that required in the United States.

Service Agreements

We contract with various third parties to provide certain critical services including manufacturing, supply, warehousing, distribution, customer service, certain financial functions, certain research and development activities and medical affairs.

For a complete description of our significant manufacturing, supply and other service agreements, see Note 14. Commitments and Contingencies in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

We primarily purchase our raw materials for the production and development of our products in the open market from third party suppliers. However, some raw materials are only available from one source. We attempt, when possible, to mitigate our raw material supply risks through inventory management and alternative sourcing strategies. We are required to identify the suppliers of all raw materials for our products in the drug applications that we file with the FDA. If the raw materials from an approved supplier for a particular product become unavailable, we would be required to qualify a substitute supplier with the FDA, which would likely interrupt manufacturing of the affected product. See Item 1A. Risk Factors for further discussion on the risks associated with the sourcing of our raw materials.

License & Collaboration Agreements and Acquisitions

We continue to seek to enhance our product line and develop a balanced portfolio of differentiated products through product acquisitions and in-licensing, or acquiring licenses to products, compounds and technologies from third parties. The Company enters into strategic alliances and collaborative arrangements with third parties, which give the Company rights to develop, manufacture, market and/or sell pharmaceutical products, the rights to which are primarily owned by these third parties. These alliances and arrangements can take many forms, including licensing arrangements, co-development and co-marketing agreements, co-promotion arrangements, research collaborations and joint ventures. Such alliances and arrangements enable us to share the risk of incurring all research and development expenses that do not lead to revenue-generating products; however, because profits from alliance products are shared with the counter-parties to the collaborative arrangement, the gross margins on alliance products are generally lower, sometimes substantially so, than the gross margins that could be achieved had the Company not opted for a development partner. For a full discussion, including agreement terms and status, see our disclosures in Note 5. Acquisitions and Note 11. License and Collaboration Agreements in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

Environmental Matters

Our operations are subject to substantial federal, state and local environmental laws and regulations concerning, among other matters, the generation, handling, storage, transportation, treatment and disposal of, and exposure to, hazardous substances. Violation of these laws and regulations, which frequently change, can lead to substantial fines and penalties. Many of our operations require environmental permits and controls to prevent and limit pollution of the environment. We believe that our facilities and the facilities of our third party service providers are in substantial compliance with applicable environmental laws and regulations and we do not believe that future compliance will have a material adverse effect on our financial condition or results of operations.

Employees

As of February 21, 2017, we have 4,894 employees, of which 1,172 are engaged in research and development and regulatory work, 276 in sales and marketing, 1,933 in manufacturing, 136 in quality assurance and 1,377 in general and administrative capacities. Our employees are generally not represented by unions, with the exception of certain production personnel in our Rochester, Michigan and Mexican manufacturing facilities. We believe that our relations with our employees are good.

Executive Officers of the Registrant

The following table sets forth information as of March 1, 2017 regarding each of our current executive officers:

Name	Age	Position and Offices
Paul V. Campanelli	54	President and Chief Executive Officer and Director
Blaise Coleman	43	Executive Vice President, Chief Financial Officer
Terrance J. Coughlin	51	Executive Vice President, Chief Operating Officer
Tony Pera	59	President, Par Pharmaceutical
Matthew J. Maletta	45	Executive Vice President, Chief Legal Officer

Biographies

Our executive officers are briefly described below:

PAUL V. CAMPANELLI, 54, was appointed President, Chief Executive Officer and a Director effective September 23, 2016. Mr. Campanelli joined Endo in 2015 as the President of Par Pharmaceutical, leading Endo's fully integrated U.S. Generics business, following Endo's acquisition of Par Pharmaceutical. Prior to joining Endo, he had served as Chief Executive Officer of Par Pharmaceutical Companies, Inc. following the company's September 2012 acquisition by TPG. While CEO of Par, Mr. Campanelli built a strong leadership team and an industry-leading generics business. Under his leadership, the company significantly increased total revenue, acquired Michigan-based JHP Pharmaceuticals, established a business office in London to serve as Par's entry point into the European generics market and completed its acquisition of an active pharmaceutical ingredients (API) facility located in Chennai, India. Prior to the TPG acquisition, Mr. Campanelli served as Chief Operating Officer and President of Par Pharmaceutical, Inc., the company's generics division, from 2011 to 2012. Earlier in his tenure at Par, Mr. Campanelli held roles of increasing responsibility, including Senior Vice President, Business Development & Licensing; Executive Vice President and President of Par Pharmaceutical, Inc.; and was named a Corporate Officer by Par's board of directors. He also served on the board of directors of Sky Growth Holdings Corporation. Prior to joining Par, Mr. Campanelli served as Vice President, Business Development at Dr. Reddy's Laboratories Ltd. where he was employed from 1992-2001. Mr. Campanelli earned his Bachelor of Science degree from Springfield College.

BLAISE COLEMAN, 43, was appointed Executive Vice President and Chief Financial Officer effective December 19, 2016. Mr. Coleman was serving as Endo's Interim Chief Financial Officer since November 22, 2016. Mr. Coleman joined Endo in January 2015 as Vice President of Corporate Financial Planning & Analysis and was promoted to Senior Vice President of Global Finance Operations in November 2015. Prior to joining Endo, Mr. Coleman held a number of finance leadership roles with AstraZeneca, a global biopharmaceutical company, latterly as the Chief Financial Officer of the AstraZeneca/Bristol-Myers Squibb US Diabetes Alliance from January 2013 until January 2015. Prior to this, he was the Head of Finance for the AstraZeneca Global Medicines Development organization based in Mölndal, Sweden from September 2011 to January 2013. Mr. Coleman joined AstraZeneca as Senior Director Commercial Finance for the US Cardiovascular Business in November 2007. He joined AstraZeneca from Centocor, a wholly owned subsidiary of Johnson & Johnson, where he held positions in the respective Licenses & Acquisitions and Commercial Finance organizations. Mr. Coleman's move to Centocor in early 2003 followed 7 years' experience with the global public accounting firm, PricewaterhouseCoopers LLP. He is a Certified Public Accountant. Mr. Coleman received a Bachelor of Science in accounting from Widener University and a MBA from Duke University, The Fuqua School of Business.

TERRANCE J. COUGHLIN, 51, was appointed Executive Vice President and Chief Operating Officer effective November 1, 2016. In this role, Mr. Coughlin has responsibility for Manufacturing and Technical Operations, as well as Endo Ventures and R&D across the enterprise. Most recently, Mr. Coughlin served as Vice President, Operations of Par Pharmaceutical Companies, Inc., a subsidiary of Endo. Prior to Endo's acquisition of Par in September 2015, Mr. Coughlin was the Chief Operating Officer of Par Pharmaceutical Companies, Inc. Prior to joining Par, Mr. Coughlin held a number of leadership roles with Glenmark Generics, Inc. USA/Glenmark Generics Limited latterly as the President and Chief Executive Officer of Glenmark Generics, Inc. USA/Glenmark Generics Limited. Prior to this, Mr. Coughlin had the overall responsibility for Glenmark's North American, Western European and Eastern European generics businesses, as well as its global active pharmaceutical ingredient business and generics operations in India. Prior to joining Glenmark, Mr. Coughlin served as Senior Vice President at Dr. Reddy's Laboratories, Inc. Mr. Coughlin began his career in 1988 with Wyckoff Chemical Company, Inc. Mr. Coughlin earned a B.S. in chemistry from Central Michigan University.

TONY PERA, 59, was appointed President, Par Pharmaceutical effective November 1, 2016. In this role, Mr. Pera leads Endo's U.S. Generics business including responsibility and oversight of Par Generic and Par Sterile sales teams, as well as Par's marketing & business analytics group. Most recently, Mr. Pera served as Chief Commercial Officer of Par Pharmaceutical. He joined Par in February 2014 as part of Par's acquisition of JHP Pharmaceutical, where he held a similar position. As Chief Commercial Officer, Mr. Pera was responsible for all sales, marketing, pricing and customer operations functions for Par. Prior to JHP and Par, Mr. Pera was Senior Vice President of Supply Chain Management for AmerisourceBergen (ABC), a major U.S. pharmaceutical wholesaler, for approximately five years. Prior to ABC, he held numerous senior leadership positions with generic drug companies including APP (now Fresenius Kabi), Bedford Laboratories and LyphoMed. Mr. Pera started his career as a sales representative for the parenteral products division of Baxter. Mr. Pera holds a B.S. in Business Administration from the University of Illinois in Champaign and an M.B.A. from DePaul University.

MATTHEW J. MALETTA, 45, was appointed Executive Vice President, Chief Legal Officer effective May 4, 2015. Prior to joining Endo, Mr. Maletta served as Vice President, Associate General Counsel and Corporate Secretary of Allergan, Inc. In this position, he served as an advisor to the CEO and Board of Directors and supervised several large M&A transactions and takeover defense activities, including Allergan's acquisition of Inamed and Actavis' acquisition of Allergan. Mr. Maletta first joined Allergan in 2002 as Corporate Counsel and Assistant Secretary and during his tenure, held various roles of increased responsibility. Prior to joining Allergan, Mr. Maletta was in private practice, focusing on general corporate matters, finance, governance, securities and transactions. He holds a B.A. degree in political science from the University of Minnesota, summa cum laude, and a J.D. degree, cum laude, from the University of Minnesota Law School.

We have employment agreements with each of our executive officers.

Available Information

Our internet address is www.endo.com. The contents of our website are not part of this Annual Report on Form 10-K, and our internet address is included in this document as an inactive textual reference only. We make our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and all amendments to those reports available free of charge on our website as soon as reasonably practicable after we file such reports with, or furnish such reports to, the Securities and Exchange Commission.

You may also read and copy any materials we file with the SEC at the SEC's Public Reference Room that is located at 100 F Street, N.E., Room 1580, Washington, DC 20549. Information about the operation of the Public Reference Room can be obtained by calling the SEC at 1-800-SEC-0330 or 1-202-551-8090. You can also access our filings through the SEC's internet site: *www.sec.gov (intended to be an inactive textual reference only)*.

You may also access copies of the Company's filings with the Canadian Securities Administrators on SEDAR through their internet site: *www.sedar.com (intended to be an inactive textual reference only)*.

Item 1A. ***Risk Factors***

We operate in a highly competitive industry.

The pharmaceutical industry is intensely competitive, and we face competition in our branded and generic pharmaceutical business. In addition to product development, safety, efficacy, commercialization, marketing and promotion, other competitive factors include product quality and price, reputation, service and access to scientific and technical information. Many of our competitors, including Abbott, Allergan, Purdue, Jazz, Shire, Horizon, Mallinckrodt, Teva, Mylan, Sandoz and Impax, among others, may have greater resources than we do and we cannot predict with certainty the timing or impact of competitors' products. Furthermore, recent trends in this industry are toward further market consolidation of large drug companies into a smaller number of very large entities, further concentrating financial, technical and market strength and increasing competitive pressure in the industry. It is possible that our competitors may make greater research and development investments and have more efficient or superior processes and systems and that their new products may make our products or technologies uncompetitive or obsolete. Furthermore, academic institutions, government agencies and other public and private organizations conducting research may seek patent protection and may establish collaborative arrangements for competitive products or programs. If we fail to compete successfully, our business, results of operations, financial condition and cash flows could be materially adversely affected.

Our branded products face competition from generic versions. Generic versions are generally significantly cheaper than branded versions and, where available, may be required or encouraged in place of the branded version under third-party reimbursement programs, or substituted by pharmacies for branded versions by law. The entrance of generic competition to our branded products generally reduces our market share and adversely affects our profitability and cash flows. Further, certain Asian and other overseas generic competitors may be able to produce products at costs lower than the costs of domestic manufacturers. If we experience substantial competition from Asian or other overseas generic competitors with lower production costs, our profit margins will suffer. In addition, certain of our branded products are not protected by patent rights or have limited patent life and will soon lose patent protection. Loss of patent protection for a branded product typically is followed promptly by generic substitutes. As a result, sales of many of these branded products may decline or stop growing over time. Generic competition with our branded products has had and will continue to have a material adverse effect on the net sales and profitability of our branded products.

In addition, our generics business faces competition from brand-name pharmaceutical companies, which have taken aggressive steps to thwart or delay competition from generic equivalents of their brand-name products. The actions taken by competing brand name pharmaceutical companies may increase the costs and risks associated with our efforts to introduce generic products and may delay or prevent such introduction altogether.

Our sales may also suffer as a result of changes in consumer demand for our products, including those related to fluctuations in consumer buying patterns tied to seasonality or the introduction of new products by competitors, which could have a material adverse effect on our business, results of operations, financial conditions and cash flows.

If generic manufacturers use litigation and regulatory means to obtain approval for generic versions of our branded drugs, our sales may suffer.

Under the Hatch-Waxman Act, the U.S. Food and Drug Administration (FDA) can approve an Abbreviated New Drug Application (ANDA) for a generic bioequivalent version of a previously approved drug, without requiring the ANDA applicant to undertake the full clinical testing necessary to obtain approval to market a new drug. In place of such clinical studies, an ANDA applicant usually needs only to submit data demonstrating that its generic product is bioequivalent to the branded product.

Various generic manufacturers have filed ANDAs seeking FDA approval for generic versions of certain of our key pharmaceutical products, including but not limited to Lidoderm®, both formulations of OPANA® ER, Aveed® and Megace *ES*®. In connection with such filings, these manufacturers have challenged the validity and/or enforceability of one or more of the underlying patents protecting our products. In the case of Lidoderm® and Megace *ES*®, we no longer have patent protection in the markets where we sell these products. Our revenues from Lidoderm® have been negatively affected by Actavis's September 2013 launch and Mylan's August 2015 launch of their lidocaine patch 5%, generic versions of Lidoderm®, and we anticipate that these revenues could decrease further should one or more additional generic versions launch. With respect to OPANA® ER, Aveed® and other branded pharmaceutical products, it has been and continues to be our practice to vigorously defend and pursue all available legal and regulatory avenues in defense of the intellectual property rights protecting our products. Despite our efforts to defend our products, litigation is inherently uncertain, and we cannot predict the timing or outcome of our efforts. If we are not successful in defending our intellectual property rights or opt to settle, or if a product's marketing exclusivity rights expire or become otherwise unenforceable, our competitors could ultimately launch generic versions of our products, which could significantly decrease our revenues and could have a material adverse effect on our business, results of operations, financial condition and cash flows as well as our share price. For a complete description of the related legal proceedings, see Note 14. Commitments and Contingencies in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules". As a result, there are currently ongoing legal proceedings brought by us and/or our subsidiaries, and in certain cases our third party partners, against manufacturers seeking FDA approval for generic versions of our products.

If we fail to obtain exclusive marketing rights for our generic pharmaceutical products or fail to introduce these generic products on a timely basis, our revenues, gross margin and operating results may decline.

The Hatch-Waxman amendments to the Federal Food, Drug, and Cosmetic Act provide for a period of 180 days of marketing exclusivity for a generic version of a previously approved drug for any applicant that is first-to-file an ANDA containing a certification of invalidity, non-infringement or unenforceability related to a patent listed with respect to the corresponding brand-name drug (commonly referred to as a "Paragraph IV certification"). A large portion of our revenues for our U.S. Generic Pharmaceuticals segment have been derived from the sales of generic drugs during such 180-day marketing exclusivity period permitted under the Hatch-Waxman Act and from the sale of other generic products for which there otherwise is limited competition. ANDAs that contain Paragraph IV certifications challenging patents, however, generally become the subject of patent litigation that can be both lengthy and costly. There is no certainty that we will prevail in any such litigation, that we will be the first-to-file and be granted the 180-day marketing exclusivity period, or, if we are granted the 180-day marketing exclusivity period, that we will not forfeit such period. Even where we are awarded marketing exclusivity, we may be required to share our exclusivity period with other ANDA applicants who submit Paragraph IV certifications. In addition, brand-name pharmaceutical companies often authorize a generic version of the corresponding brand-name drug to be sold during any period of marketing exclusivity that is awarded (described further below). Furthermore, timely commencement of the litigation by the patent owner imposes an automatic stay of ANDA approval by the FDA for 30 months, unless the case is decided in the ANDA applicant's favor during that period. Finally, if the court decision is adverse to the ANDA applicant, the ANDA approval will be delayed until the challenged patent expires, and the applicant will not be granted the 180-day marketing exclusivity.

The future profitability of our U.S. Generic Pharmaceutical segment depends, to a significant extent, upon our ability to introduce, on a timely basis, new generic products that are either the first-to-market (or among the first-to-market) or that otherwise can gain significant market share during the 180-day marketing period as permitted by the Hatch-Waxman Act. Our ability to timely bring our products to market is dependent upon, among other things, the timing of regulatory approval of our products, which to a large extent is outside of our control, as well as the timing of competing products. Our revenues and future profitability are dependent, in large part, upon our ability or the ability of our development partners to file, timely and effectively, ANDAs with the FDA or to enter into contractual relationships with other parties that have obtained marketing exclusivity. No assurances can be given that we will be able to develop and introduce commercially successful products in the future within the time constraints necessary to be successful. If we or our development partners are unable to continue to timely and effectively file ANDAs with the FDA or to partner with other parties that have obtained marketing exclusivity, our revenues and operating results may decline significantly and our prospects and business may be materially adversely affected.

We may be the subject of product liability claims or product recalls, and we may be unable to obtain or maintain insurance adequate to cover potential liabilities.

Our business exposes us to significant potential risk from product liability claims, other significant litigation matters, government investigations or product recalls, including, but not limited to, such matters associated with the testing, manufacturing, marketing and sale of our products. We have been in the past, and continue to be, subject to various product liability cases, other litigations and government investigations. In addition to direct expenditures for damages, settlement and defense costs, there is a possibility of adverse publicity, loss of revenues and disruption of business as a result of product liability claims or other litigation matters. Some plaintiffs have received substantial damage awards in some jurisdictions against pharmaceutical and/or medical device companies based upon claims for injuries allegedly caused by the use of their products. In addition, in the age of social media, plaintiffs' attorneys have a wide variety of tools to advertise their services and solicit new clients for litigation. Thus, we could expect that any significant product liability litigation or mass tort in which we are a defendant will have a larger number of plaintiffs than such actions have seen historically because of the increasing use of wide-spread and media-varied advertising. In addition, it may be necessary for us to voluntarily or mandatorily recall or withdraw products that do not meet approved specifications or which subsequent data demonstrate may be unsafe or ineffective or misused. Any such recall or withdraw could result in adverse publicity, costs connected to the recall and loss of revenue. If we are found liable on a product liability claim or series of claims, defaults could be declared under our debt agreements, we could suffer reputational damage, and we could incur losses, any of which could materially and adversely impact our business, financial condition, results of operations and cash flows.

Our pharmaceutical and medical device products may cause, or may appear to cause, serious adverse side effects or potentially dangerous drug interactions if misused, improperly prescribed or subject to faulty surgical technique. For example, we and/or certain of our subsidiaries, have been named as defendants in multiple lawsuits in various federal and state courts alleging personal injury resulting from use of transvaginal surgical mesh products designed to treat pelvic organ prolapse and stress urinary incontinence. Through our Astora Women's Health Business (Astora), we and certain plaintiffs' attorneys representing mesh-related product liability claimants have entered into various Master Settlement Agreements (MSAs) regarding settling up to approximately 49,000 filed and unfiled mesh claims handled or controlled by the participating attorneys. These MSAs, which were executed at various times since June 2013, were entered into solely by way of compromise and settlement and are not in any way an admission of liability or fault by us and/or any of our subsidiaries. As of December 31, 2016, our product liability accrual for vaginal mesh cases totaled $963.1 million for all known claims for which a liability is probable. We may be subject to additional liabilities arising out of these claims, and are responsible for the cost of managing these claims. In addition to claims covered by MSAs, we are currently aware of approximately 9,700 claims that have been filed, asserted or that we believe are likely to be asserted that have not been accrued for because we lack sufficient information to determine whether any potential loss is probable. In addition, there may be other claims asserted in the future. It is currently not possible to estimate the number or validity of any such future claims. Although we believe there is a reasonable possibility that a loss in excess of the amount recognized exists, we are unable to estimate the possible loss or range of loss in excess of the amount accrued at this time.

We cannot confirm to you that we will be able to obtain or maintain product liability insurance in the future on acceptable terms or with adequate coverage against potential liabilities or other losses such as the cost of a recall if any claim is brought against us, regardless of the success or failure of the claim. For example, we no longer have product liability insurance to cover the claims in connection with the mesh-related litigation described above. Additionally, we may be limited by the surviving insurance policies of our acquired subsidiaries, which may not be adequate to cover against potential liabilities or other losses. The failure to generate sufficient cash flow or to obtain other financing could affect our ability to pay the amounts due under those liabilities not covered by insurance. See Note 14. Commitments and Contingencies in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules" for further discussion of our product liability claims.

Our ability to protect and maintain our proprietary and licensed third party technology, which is vital to our business, is uncertain.

Our success, competitive position and future income will depend in part on our ability to obtain and protect patent rights relating to the technologies, processes and products we have developed and are currently developing and may develop in the future. Our policy is to seek patent protection for technologies, processes and products we own and to enforce the intellectual property rights we own and license. We cannot confirm to you that patent applications we submit and have submitted will result in patents being issued. If an invention qualifies as a joint invention, the joint inventor may have rights in the invention and we cannot confirm to you that the joint inventor will protect the intellectual property rights to the joint invention. We cannot confirm to you that a third party will not infringe upon, design around or develop uses not covered by any patent issued or licensed to us or that these patents will otherwise be commercially viable. In this regard, the patent position of pharmaceutical compounds and compositions is particularly uncertain. Even issued patents may later be modified or revoked by the PTO, by analogous foreign offices or in legal proceedings. Upon the expiration or loss of necessary intellectual property protection for a product, others may manufacture and distribute our patented products, which will result in a loss of a significant portion of our sales of that product.

In addition, our success, particularly in our branded businesses, depends in part on the ability of our partners and suppliers to obtain, maintain and enforce patents, and protect trademarks, trade secrets, know-how, and other intellectual property and proprietary information. Our ability to commercialize any branded product successfully will largely depend upon our or any partner's or supplier's ability to obtain and maintain patents and trademarks of sufficient scope to lawfully prevent third-parties from developing and/or marketing infringing products.

We cannot confirm to you as to the degree of protection any patents will afford, including whether the protection obtained will be of sufficient breadth and degree to protect our commercial interests in all the countries where we conduct business. Furthermore, we cannot confirm to you that our products will not infringe the patents or other intellectual property rights held by third parties. If we infringe the intellectual property rights of others, we could lose our right to develop, manufacture or sell products or we could be required to pay monetary damages or royalties to license proprietary rights from third parties. An adverse determination in a judicial or administrative proceeding or a failure to obtain necessary licenses could prevent us from manufacturing or selling our products.

The Company also relies on trade secrets and other un-patented proprietary information, which it generally seeks to protect by confidentiality and nondisclosure agreements with its employees, consultants, advisors and partners. These agreements may not effectively prevent disclosure of confidential information and may not provide the Company with an adequate remedy in the event of unauthorized disclosure. In addition, if the Company's employees, scientific consultants or partners develop inventions or processes that may be applicable to the Company's products under development, such inventions and processes will not necessarily become the Company's property, but may remain the property of those persons or their employers.

Our competitors or other third parties may allege that we are infringing their intellectual property, forcing us to expend substantial resources in litigation, the outcome of which is uncertain. Any unfavorable outcome of such litigation, including losses related to "at-risk" product launches, could have a material adverse effect on our business, financial position and results of operations.

Companies that produce branded pharmaceutical products routinely bring litigation against ANDA or similar applicants that seek regulatory approval to manufacture and market generic forms of their branded products alleging patent infringement or other violations of intellectual property rights. Patent holders may also bring patent infringement suits against companies that are currently marketing and selling approved generic products. Litigation often involves significant expense and can delay or prevent introduction or sale of our generic products. If patents are held valid, enforceable and infringed by our products, we would, unless we could obtain a license from the patent holder, need to delay selling our corresponding generic product and, if we are already selling our product, cease selling and potentially destroy existing product stock.

There may be situations in which we may make business and legal judgments to market and sell products that are subject to claims of alleged patent infringement prior to final resolution of those claims by the courts, based upon our belief that such patents are invalid, unenforceable, or are not infringed by our marketing and sale of such products. This is referred to in the pharmaceutical industry as an "at-risk" launch. The risk involved in an at-risk launch can be substantial because, if a patent holder ultimately prevails against us, the remedies available to such holder may include, among other things, damages measured by the profits lost by the patent holder, which can be significantly higher than the profits we make from selling the generic version of the product. Moreover, if a court determines that such infringement is willful, the damages could be subject to trebling. We could face substantial damages from adverse court decisions in such matters. We could also be at risk for the value of such inventory that we are unable to market or sell.

Agreements between branded pharmaceutical companies and generic pharmaceutical companies are facing increased government scrutiny in the U.S. and abroad.

We are involved in numerous patent litigations in which generic companies challenge the validity or enforceability of our products' listed patents and/or the applicability of these patents to the generic applicant's products. Likewise, our U.S. Generic Pharmaceuticals segment is also involved in patent litigations in which we challenge the validity or enforceability of innovator companies' listed patents and/or their applicability to our generic products. Therefore, settling patent litigations has been and is likely to continue to be part of our business. Parties to such settlement agreements in the U.S., including us, are required by law to file them with the U.S. Federal Trade Commission (the FTC) and the Antitrust Division of the Department of Justice (DOJ) for review. The FTC has publicly stated that, in its view, such settlement agreements may violate the antitrust laws. In some instances, the FTC has brought actions against brand and generic companies that have entered into such agreements. Accordingly, we may receive formal or informal requests from the FTC for information about a particular settlement agreement, and there is a risk that the FTC may commence an action against us alleging violation of the antitrust laws.

In addition, some members of Congress have proposed legislation that would limit the types of settlement agreements generic manufacturers can enter into with brand companies. In 2013, the Supreme Court, in *FTC v. Actavis*, determined that reverse payment patent settlements between generic and brand companies should be evaluated under the rule of reason, but provided limited guidance beyond the selection of this standard. Because the Supreme Court did not articulate the full range of criteria upon which a determination of legality of such settlements would be based or provide guidance on the precise circumstances under which such settlements would always qualify as legal, there may be extensive litigation over what constitutes a reasonable and lawful patent settlement between a brand and generic company. We are subject to multiple lawsuits purporting to be class actions brought by direct and indirect payers alleging that our settlement agreements respectively with Watson regarding the Lidoderm® patent litigation, and with Impax regarding the Opana® ER patent litigation, were unlawful in violation of federal antitrust laws, as well as various state laws.

We have significant goodwill and other intangible assets. Consequently, potential impairment of goodwill and other intangibles may significantly impact our profitability.

Goodwill and other intangibles represent a significant portion of our assets. As of December 31, 2016 and 2015, goodwill and other intangibles comprised approximately 74% and 78%, respectively, of our total assets. Goodwill and other intangible assets 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. For the years ended December 31, 2016, 2015 and 2014, we recorded asset impairment charges of $3,781.2 million, $1,140.7 million and $22.5 million, respectively, which related primarily to goodwill and other intangible assets. The procedures and assumptions used in our goodwill and intangible assets impairment testing, and the results of our testing, are discussed in Item 7 of this report "Management's Discussion and Analysis of Financial Condition and Results of Operations" under the captions "CRITICAL ACCOUNTING ESTIMATES" and "RESULTS OF OPERATIONS".

Events giving rise to impairment of goodwill or intangible assets are an inherent risk in the pharmaceutical industry and often cannot be predicted. As a result of the significance of goodwill and other intangible assets, our results of operations and financial position in a future period could be negatively impacted should additional impairments of our goodwill or other intangible assets occur.

We are subject to various regulations pertaining to the marketing of our products and services.

We are subject to various federal and state laws pertaining to healthcare fraud and abuse involving the marketing and pricing of our products and services, including prohibitions on the offer of payment or acceptance of kickbacks or other remuneration for the purchase of our products and services, including inducements to potential patients to request our products and services and inducements to healthcare professionals to prescribe and use our products. Additionally, product promotion, educational activities, support of continuing medical education programs, and other interactions with healthcare professionals must be conducted in a manner consistent with the FDA regulations and the Anti-Kickback Statute. The Anti-Kickback Statute, with certain exceptions or exemptions published by the Office of the Inspector General of the Department of Health and Human Services (HHS-OIG), prohibits persons or entities from knowingly and willfully soliciting, receiving, offering or providing remuneration, directly or indirectly, to induce either the referral of an individual, or the furnishing, recommending, or arranging for a good or service, for which payment may be made under federal healthcare programs, such as the Medicare and Medicaid programs. Violations of the Anti-Kickback Statute also carry potential federal False Claims Act liability. Additionally, many states have adopted laws similar to the Anti-Kickback Statute, without identical exceptions or exemptions. Some of these state prohibitions apply to referral of patients for healthcare items or services reimbursed by any third-party payer, not only the Medicare and Medicaid programs. Any such new regulations or requirements may be difficult and expensive for us to comply with, may delay our introduction of new products, may adversely affect our total revenues and may have a material adverse effect on our business, results of operations, financial condition and cash flows.

Sanctions for violating these laws include criminal penalties and civil sanctions and possible exclusion from federal funded healthcare programs such as Medicare and Medicaid as well as potential liability under the False Claims Act and applicable state false claims acts. There can be no assurance that our practices will not be challenged under these laws in the future, that changes in these laws or interpretation of these laws would not give rise to new challenges of our practices, or that any such challenge would not have a material adverse effect on our business or results of operations. Law enforcement agencies sometimes initiate investigations into sales, marketing and/or pricing practices based on preliminary information or evidence, and such investigations can be and often are closed without any enforcement action. Nevertheless, these types of investigations and any related litigation can result in: (i) large expenditures of cash for legal fees, payment of penalties, and compliance activities; (ii) limitations on operations; (iii) diversion of management resources; (iv) injury to our reputation; and (v) decreased demand for our products.

In addition, our company is subject to statutory and regulatory restrictions on the promotion of uses of prescription drugs or devices that are not cleared or approved by the FDA. Although the FDA does not regulate a physician's choice of medications, treatments or product uses, the FDCA and FDA regulations and guidance significantly restrict the ability of pharmaceutical and medical device companies to communicate with patients, physicians, and other third-parties about unapproved or uncleared product uses. FDA, FTC, the HHS-OIG, the DOJ and various state Attorneys General actively enforce state and federal prohibitions on the promotion of unapproved uses, as well as prohibitions against promotional practices deemed false or misleading. A company that is found to have improperly promoted its products under these laws may be subject to significant liability, including significant administrative, civil, and criminal sanctions, including but not limited to significant civil damages, criminal fines, and exclusion from participation in Medicare, Medicaid, and other federal healthcare programs. Applicable laws governing product promotion also provide for administrative, civil, and criminal liability for individuals, including, in some circumstances, potential strict vicarious liability. Conduct giving rise to such liability could also form the basis for private civil litigation by third-party payers or other persons allegedly harmed by such conduct.

We have established and implemented a corporate compliance program designed to prevent, detect, and correct violations of state and federal healthcare laws, including laws related to advertising and promotion of our drugs and devices. Nonetheless, the FDA, FTC, HHS-OIG, the DOJ and/or the state Attorneys General, and *qui tam* relators may take the position that we are not in compliance with such requirements, and, if such non-compliance is proven, the Company and, in some cases, individual employees, may be subject to significant liability, including the aforementioned administrative, civil, and criminal sanctions.

Furthermore, in February 2014, we entered into a Deferred Prosecution Agreement (DPA) with the U.S. Department of Justice and a Corporate Integrity Agreement (CIA) with the U.S. Department of Health and Human Services to resolve allegations regarding the promotion of Lidoderm®. In March 2013, our subsidiary, Par, entered into a CIA and a Plea Agreement with the U.S. Department of Justice to resolve allegations regarding the promotion of Megace ES®. Those agreements place certain obligations on us related to the marketing of our branded pharmaceutical products and our healthcare regulatory compliance program, including reporting requirements to the U.S. government, detailed requirements for our compliance program, code of conduct, and policies and procedures, and the requirement to engage an Independent Review Organization. We have implemented procedures and practices to comply with the CIA, including the engagement of an Independent Review Organization. In the event we breach the DPA, the Plea Agreement, and/or the CIA, there is a risk the government would seek remedies provided for in those agreements, including instituting criminal prosecution against us, seeking to impose stipulated penalties, or seeking to exclude us from participation in Federal health care programs.

The pharmaceutical industry is heavily regulated, which creates uncertainty about our ability to bring new products to market and imposes substantial compliance costs on our business.

Governmental authorities such as the FDA impose substantial requirements on the development, manufacture, holding, labeling, marketing, advertising, promotion, distribution and sale of therapeutic pharmaceutical products through lengthy and detailed laboratory and clinical testing and other costly and time-consuming procedures. In addition, before obtaining regulatory approvals for certain generic products, we must conduct limited bioequivalence studies and other research to show comparability to the branded products. A failure to obtain satisfactory results in required pre-marketing trials may prevent us from obtaining required regulatory approvals. The FDA may also require companies to conduct post-approval studies and post-approval surveillance regarding their drug products and to report adverse events.

Before obtaining regulatory approvals for the sale of any of our new product candidates, we must demonstrate through preclinical studies and clinical trials that the product is safe and effective for each intended use. Preclinical and clinical studies may fail to demonstrate the safety and effectiveness of a product. Likewise, we may not be able to demonstrate through clinical trials that a product candidate's therapeutic benefits outweigh its risks. Even promising results from preclinical and early clinical studies do not always accurately predict results in later, large scale trials. A failure to demonstrate safety and efficacy could or would result in our failure to obtain regulatory approvals. Clinical trials can be delayed for reasons outside of our control, which can lead to increased development costs and delays in regulatory approval. For example, there is substantial competition to enroll patients in clinical trials, and such competition has delayed clinical development of our products in the past. For example, patients may not enroll in clinical trials at the rate expected or patients may drop out after enrolling in the trials or during the trials. In addition, we rely on collaboration partners that may control or make changes in trial protocol and design enhancements, or encounter clinical trial compliance-related issues, which may also delay clinical trials. Product supplies may be delayed or be insufficient to treat the patients participating in the clinical trials, or manufacturers or suppliers may not meet the requirements of the FDA or foreign regulatory authorities, such as those relating to Current Good Manufacturing Practices. We also may experience delays in obtaining, or we may not obtain, required initial and continuing approval of our clinical trials from institutional review boards. We cannot confirm to you that we will not experience delays or undesired results in these or any other of our clinical trials.

We cannot confirm to you that the FDA or foreign regulatory agencies will approve, clear for marketing or certify any products developed by us or that such approval will not subject the marketing of our products to certain limits on indicated use. The FDA or foreign regulatory authorities may not agree with our assessment of the clinical data or they may interpret it differently. Such regulatory authorities may require additional or expanded clinical trials. Any limitation on use imposed by the FDA or delay in or failure to obtain FDA approvals or clearances of products developed by us would adversely affect the marketing of these products and our ability to generate product revenue, which would adversely affect our financial condition and results of operations.

In addition, with respect specifically to pharmaceutical products, the submission of a New Drug Application (NDA) or ANDA to the FDA with supporting clinical safety and efficacy data, for example, does not guarantee that the FDA will grant approval to market the product. Meeting the FDA's regulatory requirements to obtain approval to market a drug product, which varies substantially based on the type, complexity and novelty of the pharmaceutical product, typically takes years and is subject to uncertainty.

Additional delays may result if an FDA Advisory Committee or other regulatory authority recommends non-approval or restrictions on approval. Although the FDA is not required to follow the recommendations of its Advisory Committees, it usually does. A negative Advisory Committee meeting could signal a lower likelihood of approval, although the FDA may still end up approving our application. Regardless of an Advisory Committee meeting outcome or the FDA's final approval decision, public presentation of our data may shed positive or negative light on our application. With respect to our Supplemental New Drug Application for OPANA® ER, the FDA has scheduled a Joint Meeting of the Drug Safety and Risk Management Advisory Committee and the Anesthetic and Analgesic Drug Products Advisory Committee in March 2017, to discuss pre- and post-marketing data about the abuse of OPANA® ER and the overall risk-benefit of this product. The Advisory Committees also will discuss abuse of generic oxymorphone ER and oxymorphone immediate-release (IR) products. The Advisory Committees will likely make recommendations to the FDA as to whether additional measures should be taken to control the abuse potential of these products, including a possible recommendation to remove these products from U.S. markets.

Some drugs are available in the United States that are not the subject of an FDA-approved NDA. In 2011, the FDA's Center for Drug Evaluation and Research ("CDER") Office of Compliance modified its enforcement policy with regard to the marketing of such "unapproved" marketed drugs. Under CDER's revised guidance, the FDA encourages manufacturers to obtain NDA approvals for such drugs by requiring unapproved versions to be removed from the market after an approved version has been introduced, subject to a grace period at the FDA's discretion. This grace period is intended to allow an orderly transition of supply to the market and to mitigate any potential related drug shortage. Depending on the length of the grace period and the time it takes for subsequent applications to be approved, this may result in a period of de facto market exclusivity to the first manufacturer that has obtained an approved NDA for the previously unapproved marketed drug. We may seek FDA approval for certain unapproved marketed drug products through the 505(b)(2) regulatory pathway. Even if we receive approval for an NDA under Section 505(b)(2), the FDA may not take timely enforcement action against companies marketing unapproved versions of the drug; therefore, we cannot be sure that that we will receive the benefit of any de facto exclusive marketing period or that we will fully recoup the expenses incurred to obtain an approval. In addition, certain competitors and others have objected to the FDA's interpretation of Section 505(b)(2). If the FDA's interpretation of Section 505(b)(2) is successfully challenged, this could delay or even prevent the FDA from approving any NDA that we submit under Section 505(b)(2).

Moreover, even if our product candidates are approved under Section 505(b)(2), the approval may be subject to limitations on the indicated uses for which the products may be marketed or to other conditions of approval, or may contain requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the products.

The ANDA approval process for a new product varies in time, generally requiring a minimum of 10 months following submission of the ANDA to FDA, but could also take several years from the date of application. The timing for the ANDA approval process for generic products is difficult to estimate and can vary significantly. ANDA approvals, if granted, may not include all uses (known as indications) for which a company may seek to market a product.

Further, once a product is approved or cleared for marketing, failure to comply with applicable regulatory requirements can result in, among other things, suspensions or withdrawals of approvals or clearances, seizures or recalls of products, injunctions against the manufacture, holding, distribution, marketing and sale of a product, and civil and criminal sanctions. Furthermore, changes in existing regulations or the adoption of new regulations could prevent us from obtaining, or affect the timing of, future regulatory approvals or clearances. Meeting regulatory requirements and evolving government standards may delay marketing of our new products for a considerable period of time, impose costly procedures upon our activities and result in a competitive advantage to larger companies that compete against us.

Based on scientific developments, post-market experience, or other legislative or regulatory changes, the current FDA standards of review for approving new pharmaceutical products, or new indications or uses for approved or cleared products, are sometimes more stringent than those that were applied in the past.

Some new or evolving FDA review standards or conditions for approval or clearance were not applied to many established products currently on the market, including certain opioid products. As a result, the FDA does not have as extensive safety databases on these products as on some products developed more recently. Accordingly, we believe the FDA has expressed an intention to develop such databases for certain of these products, including many opioids. In particular, the FDA has expressed interest in specific chemical structures that may be present as impurities in a number of opioid narcotic active pharmaceutical ingredients, such as oxycodone, which based on certain structural characteristics and laboratory tests may indicate the potential for having mutagenic effects. FDA has required, and may continue to require, more stringent controls of the levels of these impurities in drug products for approval.

Also, the FDA may require labeling revisions, formulation or manufacturing changes and/or product modifications for new or existing products containing such impurities. The FDA's more stringent requirements, together with any additional testing or remedial measures that may be necessary, could result in increased costs for, or delays in, obtaining approval for certain of our products in development. Although we do not believe that the FDA would seek to remove a currently marketed product from the market unless such mutagenic effects are believed to indicate a significant risk to patient health, we cannot make any such assurance.

In May of 2016, an FDA advisory panel recommended mandatory training of all physicians who prescribe opioids on the risks of prescription opioids. In 2016, the CDC also issued a guideline for prescribing opioids for chronic pain that provides recommendations for primary care clinicians who are prescribing opioids for chronic pain outside of active cancer treatment, palliative care, and end-of-life care. In addition, state health departments and boards of pharmacy have authority to regulate distribution and may modify their regulations with respect to prescription narcotics in an attempt to curb abuse. In either case, any such new regulations or requirements may be difficult and expensive for us to comply with, may delay our introduction of new products, may adversely affect our total revenues and may have a material adverse effect on our business, results of operations, financial condition and cash flows.

The FDA has the authority to require companies to undertake additional post-approval studies to assess known or signaled safety risks and to make any labeling changes to address those risks. The FDA also can require companies to formulate approved Risk Evaluation and Mitigation Strategies (REMS) to confirm a drug's benefits outweigh its risks. For example, in 2011, we, along with other manufacturers of long-acting and extended-release opioid drug products, received a letter from the FDA requiring that we develop and submit to the FDA a post-market REMS plan for our OPANA® ER, morphine sulfate ER, and oxycodone ER drug products to require that training is provided to prescribers of these products, and that information is provided to prescribers that they can use in counseling patients about the risks and benefits of opioid drug use. In December 2011, the FDA approved our interim REMS for OPANA® ER, which was subsequently superseded by the class-wide extended-release/long-acting REMS approved in July 2012. The goal of this REMS is to reduce serious adverse outcomes resulting from inappropriate prescribing, misuse and abuse of extended-release or long-acting opioid analgesics while maintaining patient access to pain medications. The REMS includes a Medication Guide, Elements to Assure Safe Use and annual REMS Assessment Reports.

The FDA's exercise of its authority under the FFDCA could result in delays or increased costs during product development, clinical trials and regulatory review, increased costs to comply with additional post-approval regulatory requirements and potential restrictions on sales of approved products. Foreign regulatory agencies often have similar authority and may impose comparable requirements and costs. Post-marketing studies and other emerging data about marketed products, such as adverse event reports, may also adversely affect sales of our products. Furthermore, the discovery of significant safety or efficacy concerns or problems with a product in the same therapeutic class as one of our products that implicate or appear to implicate the entire class of products could have an adverse effect on sales of our product or, in some cases, result in product withdrawals. The FDA has continuing authority over the approval of an NDA or ANDA and may withdraw approval if, among other reasons, post-marketing clinical or other experience, tests or data show that a drug is unsafe for use under the conditions upon which it was approved, or if FDA determines that there is a lack of substantial evidence of the drug's efficacy under the conditions described in its labeling. Furthermore, new data and information, including information about product misuse or abuse at the user level, may lead government agencies, professional societies, practice management groups or patient or trade organizations to recommend or publish guidance or guidelines related to the use of our products, which may lead to reduced sales of our products.

The FDA and the DEA have important and complementary responsibilities with respect to our business. The FDA administers an application and post-approval monitoring process to confirm that products that are available in the market are safe, effective and consistently of uniform, high quality. The DEA administers registration, drug allotment and accountability systems to satisfy against loss and diversion of controlled substances. Both agencies have trained investigators that routinely, or for cause, conduct inspections, and both have authority to seek to enforce their statutory authority and regulations through administrative remedies as well as civil and criminal enforcement actions.

The FDA regulates and monitors the quality of drug clinical trials to provide human subject protection and to support marketing applications. The FDA may place a hold on a clinical trial and may cause a suspension or withdrawal of product approvals if regulatory standards are not maintained. The FDA also regulates the facilities, processes, and procedures used to manufacture and market pharmaceutical products in the U.S. Manufacturing facilities must be registered with the FDA and all products made in such facilities must be manufactured in accordance with the latest cGMP regulations, which are enforced by the FDA. Compliance with clinical trial requirements and cGMP regulations requires the dedication of substantial resources and requires significant expenditures. In the event an approved manufacturing facility for a particular drug is required by the FDA to curtail or cease operations, or otherwise becomes inoperable, or a third party contract manufacturing facility faces manufacturing problems, obtaining the required FDA authorization to manufacture at the same or a different manufacturing site could result in production delays, which could adversely affect our business, results of operations, financial condition and cash flow.

The FDA is authorized to perform inspections of U.S. and foreign facilities under the FFDCA. At the end of such an inspection, FDA could issue a Form 483 Notice of Inspectional Observations, which could cause us to modify certain activities identified during the inspection. Following such inspections, the FDA may issue an untitled letter as an initial correspondence that cites violations that do not meet the threshold of regulatory significance of a Warning Letter. FDA guidelines also provide for the issuance of Warning Letters for violations of "regulatory significance" for which the failure to adequately and promptly achieve correction may be expected to result in an enforcement action. FDA also may issue Warning Letters and untitled letters in connection with events or circumstances unrelated to an FDA inspection.

Similar to other healthcare companies, during 2016, our facilities, in multiple countries, across the full range of our business units, were subject to routine and new-product related inspections by the FDA, MHRA, HPRA and Health Canada. Some of these inspections resulted in non-critical inspection observations (including FDA Form 483 observations). We have responded to all inspection observations within the required time frame and have implemented, or are continuing to implement, the corrective action plans as agreed with the relevant regulatory agencies.

Many of our core products contain controlled substances. The stringent DEA regulations on our use of controlled substances include restrictions on their use in research, manufacture, distribution and storage. A breach of these regulations could result in imposition of civil penalties, refusal to renew or action to revoke necessary registrations, or other restrictions on operations involving controlled substances. In addition, failure to comply with applicable legal requirements subjects the manufacturing facilities of our subsidiaries and manufacturing partners to possible legal or regulatory action, including shutdown. Any such shutdown may adversely affect their ability to supply us with product and thus, our ability to market affected products. This could have a negative impact on our business, results of operations, financial condition, cash flows and competitive position. See also the risk described under the caption "The DEA limits the availability of the active ingredients used in many of our current products and products in development, as well as the production of these products, and, as a result, our procurement and production quotas may not be sufficient to meet commercial demand or complete clinical trials." In addition, we are subject to the Federal Drug Supply Chain Security Act (DSCSA). The U.S. government has enacted DSCSA which requires development of an electronic pedigree to track and trace each prescription drug at the salable unit level through the distribution system, which will be effective incrementally over a 10-year period. Compliance with DSCSA and future U.S. federal or state electronic pedigree requirements may increase our operational expenses and impose significant administrative burdens.

We cannot determine what effect changes in regulations or legal interpretations or requirements by the FDA or the courts, when and if promulgated or issued, may have on our business in the future. Changes could, among other things, require different labeling, monitoring of patients, interaction with physicians, education programs for patients or physicians, curtailment of necessary supplies, or limitations on product distribution. These changes, or others required by the FDA or DEA could have an adverse effect on the sales of these products. The evolving and complex nature of regulatory science and regulatory requirements, the broad authority and discretion of the FDA and the generally high level of regulatory oversight results in a continuing possibility that, from time to time, we will be adversely affected by regulatory actions despite our ongoing efforts and commitment to achieve and maintain full compliance with all regulatory requirements.

The success of our acquisition and licensing strategy is subject to uncertainty and any completed acquisitions or licenses may reduce our earnings, be difficult to integrate, not perform as expected or require us to obtain additional financing.

We regularly evaluate selective acquisitions and look to continue to enhance our product line by acquiring rights to additional products and compounds. Such acquisitions may be carried out through corporate acquisitions, asset acquisitions, licensing and joint venture arrangements or by acquiring other companies. However, we cannot confirm to you that we will be able to complete acquisitions that meet our target criteria on satisfactory terms, if at all. In particular, we may not be able to identify suitable acquisition candidates. In addition, any acquisition of assets and rights to products and compounds may fail to accomplish our strategic objective and may not perform as expected. Further, if we are unable to maintain, on commercially reasonable terms, product, compound or other licenses that we have acquired, our ability to develop or commercially exploit our products may be inhibited. In order to continue to develop and broaden our product range we must compete to acquire these assets. Our competitors may have greater resources than us and therefore be better able to complete acquisitions or may cause the ultimate price we pay for acquisitions to increase. If we fail to achieve our acquisition goals, our growth may be limited.

In addition to the risks related to acquisition of assets and products, acquisitions of companies may expose us to additional risks, which are beyond our control, and may have a material adverse effect on our profitability and cash flows. The combination of two independent businesses is a complex, costly and time-consuming process. As a result, we may be required to devote significant management attention and resources to the integration of an acquired business into our practices and operations. Any integration process may be disruptive and, if implemented ineffectively, may restrict the realization of the full expected benefits.

In addition, any acquisitions we make may result in material unanticipated problems, expenses, liabilities, competitive responses and loss of customer relationships. The difficulties of combining operations of companies include, among others:

- diversion of management's attention to integration matters;
- difficulties in achieving anticipated cost savings, synergies, business opportunities and growth prospects from the combination of the businesses;
- difficulties in the integration of operations and systems;
- difficulties in conforming standards, controls, procedures and accounting and other policies, business cultures and compensation structures between the companies;
- difficulties in the assimilation of employees;
- difficulties in managing the expanded operations of a significantly larger and more complex company;
- challenges in retaining existing customers and obtaining new customers;
- potential unknown liabilities or larger liabilities than projected, adverse consequences and unforeseen increased expenses associated with the merger; and
- difficulties in coordinating a geographically dispersed organization.

The benefits of a merger are also subject to a variety of other factors, many of which are beyond our ability to control, such as changes in the rate of economic growth in jurisdictions in which the combined company will do business, the financial performance of the combined business in various jurisdictions, currency exchange rate fluctuations, and significant changes in trade, monetary or fiscal policies, including changes in interest rates, and tax law of the jurisdictions in which the combined company will do business. The impact of these factors, individually and in the aggregate, is difficult to predict, in part because the occurrence of the events or circumstances described in such factors may be interrelated, and the impact to the combined company of the occurrence of any one of these events or circumstances could be compounded or, alternatively, reduced, offset, or more than offset, by the occurrence of one or more of the other events or circumstances described in such factors.

In addition, based on current acquisition prices in the pharmaceutical industry, acquisitions could decrease our net income per share and add significant intangible assets and related amortization or impairment charges. Our acquisition strategy may require us to obtain additional debt or equity financing, resulting in leverage, increased debt obligations as compared to equity, or dilution of ownership. We may not be able to finance acquisitions on terms satisfactory to us.

We may decide to sell assets, which could adversely affect our prospects and opportunities for growth.

We may from time to time consider selling certain assets if (i) we determine that such assets are not critical to our strategy or (ii) we believe the opportunity to monetize the asset is attractive or for various other reasons, including for the reduction of indebtedness. We have explored and will continue to explore the sale of certain non-core assets. Although our expectation is to engage in asset sales only if they advance or otherwise support our overall strategy, any such sale could reduce the size or scope of our business, our market share in particular markets or our opportunities with respect to certain markets, products or therapeutic categories. As a result, any such sale could have an adverse effect on our business, prospects and opportunities for growth, results of operations, financial condition and cash flows.

Our growth and development will depend on developing, commercializing and marketing new products, including both our own products and those developed with our collaboration partners. If we do not do so successfully, our growth and development will be impaired.

Our future revenues and profitability will depend, to a significant extent, upon our ability to successfully commercialize new branded and generic pharmaceutical products protected by patent or statutory authority in a timely manner. As a result, we must continually develop, test and manufacture new products, which must meet regulatory standards to receive requisite marketing authorizations. Products we are currently developing may or may not receive the regulatory approvals or clearances necessary for us to market them. Furthermore, the development and commercialization process is time-consuming and costly, and we cannot confirm to you that any of our products, if and when developed and approved, can be successfully commercialized.

In addition, risks associated with developing, commercializing and marketing new products are beyond our control. For example, some of our collaboration partners may decide to make substantial changes to a product's formulation or design, may experience financial difficulties or may have limited financial resources. Any of the foregoing may delay the development, commercialization and/or marketing of new products. In addition, if a co-developer on a new product terminates our collaboration agreement or does not perform under the agreement, we may experience delays and additional costs in developing and marketing that product.

We conduct research and development of medical and technological products to enable us to manufacture and market pharmaceutical products in accordance with specific government regulations. Much of our drug development effort is focused on technically difficult-to-formulate products and/or products that require advanced manufacturing technology. Typically, expenses related to research, development and regulatory approval of compounds for our branded pharmaceutical products are significantly greater than those expenses associated with generic products. As we continue to develop new products, our research expenses will likely increase. Because of the inherent risk associated with research and development efforts in the healthcare industry, particularly with respect to new drugs, our research and development expenditures may not result in the successful regulatory approval and introduction of new pharmaceutical products. Also, after we submit a regulatory application, the relevant governmental health authority may require that we conduct additional studies, including, studies to assess the product's interaction with alcohol. As a result, we may be unable to reasonably predict the total research and development costs to develop a particular product.

The availability of third party reimbursement for our products is uncertain, and thus we may find it difficult to maintain current price levels. Additionally, the market may not accept those products for which third party reimbursement is not adequately provided.

Our ability to commercialize our products depends, in part, on the extent to which reimbursement for the costs of these products is available from government healthcare programs, such as Medicaid and Medicare, private health insurers and others. We cannot be certain that, over time, third party reimbursements for our products will be adequate for us to maintain price levels sufficient for realization of an appropriate return on our investment. Government payers, private insurers and other third party payers are increasingly attempting to contain healthcare costs by (1) limiting both coverage and the level of reimbursement (including adjusting co-pays) for products approved for marketing by the FDA, (2) refusing, in some cases, to provide any coverage for uses of approved products for indications for which the FDA has not granted marketing approval and (3) requiring or encouraging, through more favorable reimbursement levels or otherwise, the substitution of generic alternatives to branded products.

We may experience pricing pressure on the price of our products due to social or political pressure to lower the cost of drugs, which would reduce our revenue and future profitability.

We may experience downward pricing pressure on the price of our products due to social or political pressure to lower the cost of drugs, which would reduce our revenue and future profitability. Recent events have resulted in increased public and governmental scrutiny of the cost of drugs, especially in connection with price increases following companies' acquisition of the rights to certain drug products. In particular, U.S. federal prosecutors have issued subpoenas to pharmaceutical companies seeking information about drug pricing practices. In addition, the U.S. Senate is publicly investigating a number of pharmaceutical companies relating to drug-price increases and pricing practices. Our revenue and future profitability could be negatively affected if these inquiries were to result in legislative or regulatory proposals that limit our ability to increase the prices of our products.

In addition, in September 2016, a group of U.S. Senators introduced legislation that would require pharmaceutical manufacturers to justify price increases of more than 10% in a 12-month period, and a large number of individual States have introduced legislation aimed at drug pricing regulation, transparency or both. Our revenue and future profitability could be negatively affected by the passage of these laws or similar federal or state legislation. Pressure from social activist groups and future government regulations may also put downward pressure on the price of drugs, which could result in downward pressure on the prices of our products in the future.

Our business is highly dependent upon market perceptions of us, our brands, and the safety and quality of our products, and may be adversely impacted by negative publicity or findings.

Market perceptions of us are very important to our business, especially market perceptions of our company and brands and the safety and quality of our products. If we, our partners and suppliers, or our brands suffer from negative publicity, or if any of our products or similar products which other companies distribute are subject to market withdrawal or recall or are proven to be, or are claimed to be, ineffective or harmful to consumers, then this could have a material adverse effect on our business, results of operations, financial condition and cash flows.

For example, the pharmaceutical drug supply has been increasingly challenged by the vulnerability of distribution channels to illegal counterfeiting and the presence of counterfeit products in a growing number of markets and over the Internet. Third parties may illegally distribute and sell counterfeit versions of our products that do not meet the rigorous manufacturing and testing standards that our products undergo. Counterfeit products are frequently unsafe or ineffective, and can be potentially life-threatening. Counterfeit medicines may contain harmful substances, the wrong dose of API or no API at all. However, to distributors and users, counterfeit products may be visually indistinguishable from the authentic version.

In addition, negative posts or comments about us on any social networking web site could seriously damage our reputation. The inappropriate use of certain social media vehicles could cause brand damage or information leakage or could lead to legal implications from the improper collection and/or dissemination of personally identifiable information or the improper dissemination of material non-public information.

We are dependent on market perceptions, and negative publicity associated with product quality, patient illness, or other adverse effects resulting from, or perceived to be resulting from, our products, or our partners' and suppliers' manufacturing facilities, could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Our reporting and payment obligations under the Medicaid Drug Rebate Program and other governmental drug pricing programs are complex and may involve subjective decisions. Any failure to comply with those obligations could subject us to penalties and sanctions.

We are subject to federal and state laws prohibiting the presentation (or the causing to be presented) of claims for payment (by Medicare, Medicaid, or other third-party payers) that are determined to be false or fraudulent, including presenting a claim for an item or service that was not provided. These false claims statutes include the federal civil False Claims Act, which permits private persons to bring suit in the name of the government alleging false or fraudulent claims presented to or paid by the government (or other violations of the statutes) and to share in any amounts paid by the entity to the government in fines or settlement. Such suits, known as *qui tam* actions, have increased significantly in the healthcare industry in recent years. These actions against pharmaceutical companies, which do not require proof of a specific intent to defraud the government, may result in payment of fines to and/or administrative exclusion from the Medicare, Medicaid, and/or other government healthcare programs.

We are subject to laws that require us to enter into a Medicaid Drug Rebate Agreement and a 340B Pharmaceutical Pricing Agreement as a condition for having our products eligible for payment under Medicare Part B and Medicaid. We have entered into such agreements. In addition, we are required to report certain pricing information to the Centers for Medicare and Medicaid Services (CMS) on a periodic basis to allow for accurate determination of rebates owed under the Medicaid Drug Rebate Agreement, of ceiling prices under the 340B program and certain other government pricing arrangements, and of reimbursement rates for certain drugs paid under Medicare Part B. On February 1, 2016, CMS issued a Final Rule implementing the Medicaid Drug Rebate provisions incorporated into the PPACA, effective April 1, 2016 in most instances. Implementation of the Final Rule required operational adjustments by us in order to maintain compliance with applicable law. Changes included in the Final Rule revised how manufacturers calculate Average Manufacturer Price (AMP) and Best Price and also affect the quarterly amounts that we owe to state Medicaid programs through the Medicaid Drug Rebate program. Also, CMS made changes with respect to how certain products are categorized for purposes of the Medicaid Drug Rebate program (i.e., single source, innovator multiple source, or non-innovator multiple source), which could affect the rebate calculation methodology, and thus the level of rebates incurred for affected products. In addition, CMS finalized its proposal to change the reimbursement metrics upon which Medicaid agencies are required to reimburse for covered outpatient drugs. The new reimbursement structure could adversely affect providers' reimbursement for our products, and thus could adversely affect sales of our products. The Final Rule also expanded the scope of the Medicaid Drug Rebate program to apply to U.S. Territories, effective April 1, 2020, which will require operational adjustments and may result in additional rebate liability. Finally, CMS withdrew its proposed definition of "line extension" set forth in the 2012 proposed rule regarding the Medicaid Drug Rebate program and opened a new 60-day comment period soliciting views on how to interpret the relevant PPACA provisions. Additional operational adjustments and financial implications may result upon CMS' finalization of "line extension" provisions.

We and other pharmaceutical companies have been defendants in a number of lawsuits filed by various government entities, alleging generally that we and numerous other pharmaceutical companies reported false pricing information in connection with certain drugs that are reimbursable by state Medicaid programs, which are partially funded by the federal government. There is a risk the Company will be subject to similar investigations or litigations in the future and that the Company will suffer adverse decisions or verdicts of substantial amounts or that the Company will enter into monetary settlements. Any unfavorable outcomes as a result of such future litigation could have a material adverse effect on our business, financial condition, results of operations and cash flows.

There is additional uncertainty surrounding the healthcare insurance coverage mandate that went into effect in the U.S. in 2015 and continued into 2016. Employers may seek to reduce costs by reducing or eliminating employer group healthcare plans or transferring a greater portion of healthcare costs to their employees. Job losses or other economic hardships may also result in reduced levels of coverage for some individuals, potentially resulting in lower levels of healthcare coverage for themselves or their families. These economic conditions may affect patients' ability to afford healthcare as a result of increased co-pay or deductible obligations, greater cost sensitivity to existing co-pay or deductible obligations, lost healthcare insurance coverage or for other reasons. We believe such conditions could lead to changes in patient behavior and spending patterns that negatively affect usage of certain of our products, including some patients delaying treatment, rationing prescription medications, leaving prescriptions unfilled, reducing the frequency of visits to healthcare facilities, utilizing alternative therapies, or foregoing healthcare insurance coverage. Such changes may result in reduced demand for our products, which could materially and adversely affect the sales of our products, our business and results of operations.

Our customer concentration may adversely affect our financial condition and results of operations.

We primarily sell our products to a limited number of wholesale drug distributors and large pharmacy chains. In turn, these wholesale drug distributors and large pharmacy chains supply products to pharmacies, hospitals, governmental agencies and physicians. In addition, this distribution network is continuing to undergo significant consolidation marked by mergers and acquisitions among wholesale drug distributors and large pharmacy chains. We expect that consolidation of wholesale drug distributors and large pharmacy chains will increase pricing and other competitive pressures on pharmaceutical companies, including us. Total revenues from customers who accounted for 10% or more of our total revenues during the three years ended December 31 are as follows:

	2016	2015	2014
Cardinal Health, Inc.	26%	21%	21%
McKesson Corporation	27%	31%	31%
AmerisourceBergen Corporation	25%	23%	16%

Revenues from these customers are included within our U.S. Branded Pharmaceuticals, U.S. Generic Pharmaceuticals and International Pharmaceuticals segments. If we were to lose the business of any of these customers, or if any were to experience difficulty in paying us on a timely basis, our total revenues, profitability and cash flows could be materially and adversely affected.

We are currently dependent on outside manufacturers for the manufacture of a significant amount of our products; therefore, we have and will continue to have limited control of the manufacturing process and related costs. Certain of our manufacturers currently constitute the sole source of one or more of our products.

Third party manufacturers currently manufacture a significant amount of our products pursuant to contractual arrangements. Certain of our manufacturers currently constitute the sole source of our products. For example, Teikoku is our sole source of Lidoderm® and Grünenthal GmbH (Grünenthal) is our sole source for one of our formulations of OPANA® ER. Because of contractual restraints and the lead-time necessary to obtain FDA approval, and possibly DEA registration, of a new manufacturer, replacement of any of these manufacturers may be expensive and time consuming and may cause interruptions in our supply of products to customers. As a result, any such delay could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Because many of our products are manufactured by third parties, we have a limited ability to control the manufacturing process or costs related to the process. Increases in the prices we pay our manufacturers, interruptions in our supply of products or lapses in quality could adversely impact our margins, profitability and cash flows. We are reliant on our third party manufacturers to maintain the facilities at which they manufacture our products in compliance with FDA, DEA, state and local regulations. If they fail to maintain compliance with FDA, DEA or other critical regulations, they could be ordered to cease manufacturing, or product may be recalled, which would have a material adverse impact on our business, results of operations, financial condition and cash flows. Additionally, if any facility that manufactures our products experiences a natural disaster, we could experience a material adverse impact on our business, results of operations, financial condition and cash flows. In addition to FDA and DEA regulation, violation of standards enforced by the Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA) and their counterpart agencies at the state level could slow down or curtail operations of third party manufacturers.

In addition, we may consider entering into additional manufacturing arrangements with third party manufacturers. In each case, we will incur significant costs in obtaining the regulatory approvals and taking other necessary steps to begin commercial production by these manufacturers. If the market for the products manufactured by these third parties substantially contracts or disappears, we will continue to be financially obligated under these contracts. Such an obligation could have a material adverse effect on our business.

We are dependent on third parties to supply all raw materials used in our products and to provide services for certain core aspects of our business. Any interruption or failure by these suppliers, distributors and collaboration partners to meet their obligations pursuant to various agreements with us could have a material adverse effect on our business, results of operations, financial condition and cash flows.

We rely on third parties to supply all raw materials used in our products. In addition, we rely on third party suppliers, distributors and collaboration partners to provide services for certain core aspects of our business, including manufacturing, warehousing, distribution, customer service support, medical affairs services, clinical studies, sales and other technical and financial services. All third party suppliers and contractors are subject to FDA, and very often DEA, requirements. Our business and financial viability are dependent on the continued supply of goods and services by these third party suppliers, the regulatory compliance of these third parties, and on the strength, validity and terms of our various contracts with these third party manufacturers, distributors and collaboration partners. Any interruption or failure by our suppliers, distributors and collaboration partners to meet their obligations pursuant to various agreements with us could have a material adverse effect on our business, financial condition, results of operations and cash flows. In addition, we have entered into minimum purchase requirement contracts with some of our third party raw material suppliers. If the market for the products that utilize these raw materials substantially contracts or disappears, we will continue to be financially obligated under these contracts and meeting such obligations could have a material adverse effect on our business.

We are dependent upon third parties to provide us with various estimates as a basis for our financial reporting. While we undertake certain procedures to review the reasonableness of this information, we cannot obtain absolute assurance over the accounting methods and controls over the information provided to us by third parties. As a result, we are at risk of them providing us with erroneous data which could have a material adverse impact on our business and or reporting.

If our manufacturing facilities are unable to manufacture our products or the manufacturing process is interrupted due to failure to comply with regulations or for other reasons, it could have a material adverse impact on our business.

If any of our manufacturing facilities fail to comply with regulatory requirements or encounter other manufacturing difficulties, it could adversely affect our ability to supply products. All facilities and manufacturing processes used for the manufacture of pharmaceutical products are subject to inspection by regulatory agencies at any time and must be operated in conformity with cGMP and, in the case of controlled substances, DEA regulations. Compliance with the FDA's cGMP and DEA requirements applies to both drug products seeking regulatory approval and to approved drug products. In complying with cGMP requirements, pharmaceutical manufacturing facilities must continually expend significant time, money and effort in production, record-keeping and quality assurance and control so that their products meet applicable specifications and other requirements for product safety, efficacy and quality. Failure to comply with applicable legal requirements subjects our manufacturing facilities to possible legal or regulatory action, including shutdown, which may adversely affect our ability to supply the product. Were we not able to manufacture products at our manufacturing facilities because of regulatory, business or any other reasons, the manufacture and marketing of these products would be interrupted. This could have a material adverse impact on our business, results of operation, financial condition, cash flows and competitive position.

For example, our Horsham facility and the facilities of the manufacturer that we are in the process of qualifying as an alternate manufacturer for XIAFLEX® (such manufacturer, the "Proposed Alternate Manufacturer" and such facility, the "Proposed Alternate Facility") are subject to such regulatory requirements and oversight. If we or the Proposed Alternate Manufacturer fail to comply with cGMP requirements, we may not be permitted to sell our products or may be limited in the jurisdictions in which we are permitted to sell them. Further, if an inspection by regulatory authorities indicates that there are deficiencies, including non-compliance with regulatory requirements, we could be required to take remedial actions, stop production or close our Horsham facility or the Proposed Alternate Facility, which would disrupt the manufacturing processes, limit the supplies of XIAFLEX® and delay clinical trials and subsequent licensure, and/or limit the sale of commercial supplies. In addition, future noncompliance with any applicable regulatory requirements may result in refusal by regulatory authorities to allow use of XIAFLEX® in clinical trials, refusal of the government to allow distribution of XIAFLEX® within the U.S. or other jurisdictions, criminal prosecution and fines, recall or seizure of products, total or partial suspension of production, prohibitions or limitations on the commercial sale of products, refusal to allow the entering into of federal and state supply contracts, and follow-on civil litigation.

The DEA limits the availability of the active ingredients used in many of our current products and products in development, as well as the production of these products, and, as a result, our procurement and production quotas may not be sufficient to meet commercial demand or complete clinical trials.

The DEA regulates chemical compounds as Schedule I, II, III, IV or V substances, with Schedule I substances considered to present the highest risk of substance abuse and Schedule V substances the lowest risk. The active ingredients in some of our current products and products in development, including oxycodone, oxymorphone, buprenorphine, morphine, fentanyl, and hydrocodone, are listed by the DEA as Schedule II or III substances under the Controlled Substances Act of 1970. Consequently, their manufacture, shipment, storage, sale and use are subject to a high degree of regulation. For example, generally, all Schedule II drug prescriptions must be signed by a physician, physically presented to a pharmacist and may not be refilled without a new prescription.

Furthermore, the DEA limits the availability of the active ingredients used in many of our current products and products in development and sets a quota on the production of these products. We, or our contract manufacturing organizations, must annually apply to the DEA for procurement and production quotas in order to obtain these substances and produce our products. As a result, our procurement and production quotas may not be sufficient to meet commercial demand or to complete clinical trials. Moreover, the DEA may adjust these quotas from time to time during the year. Any delay or refusal by the DEA in establishing our quotas, or modification of our quotas, for controlled substances could delay or result in the stoppage of our clinical trials or product launches, or could cause trade inventory disruptions for those products that have already been launched, which could have a material adverse effect on our business, financial position, results of operations and cash flows.

If we are unable to retain our key personnel, and continue to attract additional professional staff, we may be unable to maintain or expand our business.

Because of the specialized scientific nature of our business, our ability to develop products and to compete with our current and future competitors will remain highly dependent, in large part, upon our ability to attract and retain qualified scientific, technical and commercial personnel. The loss of key scientific, technical and commercial personnel or the failure to recruit additional key scientific, technical and commercial personnel could have a material adverse effect on our business. While we have consulting agreements with certain key individuals and institutions and have employment agreements with our key executives, we cannot confirm to you that we will succeed in retaining personnel or their services under existing agreements. There is intense competition for qualified personnel in the areas of our activities, and we cannot confirm to you that we will be able to continue to attract and retain the qualified personnel necessary for the development of our business.

The trading prices of our securities may be volatile, and your investment in our securities could decline in value.

The market prices for securities of pharmaceutical companies in general have been highly volatile and may continue to be highly volatile in the future. For example, in 2016, our ordinary shares traded between $12.56 and $61.14 per share on the NASDAQ. The following factors, in addition to other risk factors described in this section, may cause the market value of our securities to fluctuate:

- FDA approval or disapproval of any of the drug applications we have submitted;
- the success or failure of our clinical trials;
- new data or new analyses of older data that raises potential safety or effectiveness issues concerning our approved products;
- product recalls;
- competitors announcing technological innovations or new commercial products;
- introduction of generic substitutes for our products, including the filing of ANDAs with respect to generic versions of our branded products;
- developments concerning our or others' proprietary rights, including patents;
- competitors' publicity regarding actual or potential products under development or other activities affecting our competitors or the industry in general;
- regulatory developments in the U.S. and foreign countries, or announcements relating to these matters;
- period-to-period fluctuations in our financial results;
- new legislation in the U.S. relating to the development, sale or pricing of pharmaceutical products or changes in interpretation of existing legislation relating thereto;
- a determination by a regulatory agency that we are engaging or have engaged in inappropriate sales or marketing activities, including promoting the "off-label" use of our products;
- social and political pressure to lower the cost of drugs;
- social and political scrutiny over increases in prices of shares of pharmaceutical companies that are perceived to be caused by a strategy of growth through acquisitions;

- litigation; and
- changes in the political and regulatory environment and international relations as a result of events such as the exit of the United Kingdom from the European Union (Brexit) and the new U.S. administration and other external factors, including market speculation or disasters and other crises.

Our operations could be disrupted if our information systems fail, if we are unsuccessful in implementing necessary upgrades or if we are subject to cyber-attacks.

Our business depends on the efficient and uninterrupted operation of our computer and communications systems and networks, hardware and software systems and our other information technology. We collect and maintain information, which includes confidential and proprietary information as well as personal information regarding our customers and employees, in digital form. Data maintained in digital form is subject to risk of cyber-attacks, which are increasing in frequency and sophistication. Cyber-attacks could include the deployment of harmful malware, viruses, worms and other means to affect service reliability and threaten data confidentiality, integrity and availability. Despite our efforts to monitor and safeguard our systems to prevent data compromise, the possibility of a future data compromise cannot be eliminated entirely, and risks associated with intrusion, tampering, and theft remain. In addition, we do not have insurance coverage with respect to system failures or cyber-attacks. If our systems were to fail or we are unable to successfully expand the capacity of these systems, or we are unable to integrate new technologies into our existing systems, our operations and financial results could suffer.

We also have outsourced significant elements of our operations to third parties, some of which are outside the U.S., including significant elements of our information technology infrastructure, and as a result we are managing many independent vendor relationships with third parties who may or could have access to our confidential information. The size and complexity of our information technology systems, and those of our third party vendors with whom we contract, make such systems potentially vulnerable to service interruptions. The size and complexity of our and our vendors' systems and the large amounts of confidential information that is present on them also makes them potentially vulnerable to security breaches from inadvertent or intentional actions by our employees, partners or vendors, or from attacks by malicious third parties.

The Company and its vendors' sophisticated information technology operations are spread across multiple, sometimes inconsistent platforms, which pose difficulties in maintaining data integrity across systems. The ever-increasing use and evolution of technology, including cloud-based computing, creates opportunities for the unintentional or improper dissemination or destruction of confidential information stored in the Company's systems.

Foreign regulatory requirements vary, including with respect to the regulatory approval process, and failure to obtain regulatory approval or maintain compliance with requirements in foreign jurisdictions would prevent or impact the marketing of our products in those jurisdictions.

We have worldwide intellectual property rights to market many of our products and product candidates and intend to seek approval to market certain of our products outside of the U.S. Approval of a product by the regulatory authorities of foreign countries must be obtained prior to manufacturing or marketing that product in those countries. The approval procedure varies among countries and can involve additional testing and the time required to obtain such approval may differ from that required to obtain FDA approval. The non-U.S. regulatory approval process includes all of the risks associated with obtaining FDA approval set forth herein. Approval by the FDA does not secure approval by the regulatory authorities of any other country, nor does the approval by foreign regulatory authorities in one country secure approval by regulatory authorities in other foreign countries or the FDA.

Outside of the U.S., regulatory agencies generally evaluate and monitor the safety, efficacy and quality of pharmaceutical products and devices and impose regulatory requirements applicable to manufacturing processes, stability testing, record keeping and quality standards, among others. These requirements vary across jurisdiction. In certain countries, including emerging and developing markets, the applicable health care and drug regulatory regimes are continuing to evolve and new requirements may be implemented. Ensuring and maintaining compliance with these evolving requirements is and will continue to be difficult, time-consuming and costly. If we fail to comply with these regulatory requirements or fail to obtain and maintain required approvals, our target market will be reduced and our ability to generate revenue from abroad will be adversely affected.

Our Astora subsidiary could be adversely affected by special risks and requirements related to its previous business of manufacturing medical products.

Our Astora subsidiary is subject to various risks and requirements associated with it previously being a medical equipment manufacturer, which could have adverse effects. These include the following:

- potential and actual product liability claims for any defective or allegedly defective goods that are distributed; and
- increased government scrutiny and/or potential claims regarding the marketing of medical devices.

We are subject to health information privacy and data protection laws that include penalties for noncompliance.

We are subject to a number of privacy and data protection laws and regulations globally. The legislative and regulatory landscape for privacy and data security continues to evolve. There has been increased attention to privacy and data security issues in both developed and emerging markets with the potential to affect directly our business. This includes federal and state laws and regulations in the United States as well as in Europe and other markets. There has also been increased enforcement activity in the United States particularly related to data security breaches. A violation of these laws or regulations could subject us to penalties, fines and/or possible exclusion from Medicare or Medicaid. Such sanctions could materially and adversely affect our business, results of operations, financial condition and cash flows.

The expanding nature of our business in global markets exposes us to risks associated with adapting to emerging markets and taking advantage of growth opportunities.

The globalization of our business, including in Latin America, South Africa and Canada, may expose us to increased risks associated with conducting business in emerging markets. Any difficulties in adapting to emerging markets could impair our ability to take advantage of growth opportunities in these regions and a decline in the growth of emerging markets could negatively affect our business, results of operations or financial condition.

The expansion of our activities in emerging markets may further expose us to more volatile economic conditions and political instability. We also face competition from companies that are already well established in these markets. Our inability to adequately respond to the unique characteristics of these markets, particularly with respect to their regulatory frameworks, the difficulties in recruiting qualified personnel, potential exchange controls, weaker intellectual property protection, higher crime levels and corruption and fraud, could have a material adverse effect on our business.

Our policies and procedures, which are designed to help us, our employees and agents comply with various laws and regulations regarding corrupt practices and anti-bribery, cannot guarantee protection against liability for actions taken by businesses in which we invest. Failure to comply with domestic or international laws could result in various adverse consequences, including possible delay in the approval or refusal to approve a product, recalls, seizures, withdrawal of an approved product from the market, or the imposition of criminal or civil sanctions, including substantial monetary penalties.

In addition, differences in banking systems and business cultures could have an adverse effect on the efficiency of internal controls over financial reporting matters. Given the significant learning curve to fully understand the emerging markets' business, operating environment and the quality of controls in place, we may not be able to adequately assess the efficiency of internal controls over financial reporting or the effects of the laws and requirements of the local business jurisdictions.

Many jurisdictions require specific permits or business licenses, particularly if the business is considered foreign. These requirements may affect our ability to carry out our business operations in emerging markets.

Our international operations could expose us to various risks, including risks related to fluctuations in foreign currency exchange rates.

In 2016, 7.0% of our total revenues were from sources outside the U.S. Some of these sales were to governmental entities and other organizations with extended payment terms. A number of factors, including differing economic conditions, changes in political climate, differing tax regimes, changes in diplomatic and trade relationships, and political or economic instability in the countries where we do business, could affect payment terms and our ability to collect foreign receivables. We have little influence over these factors and changes could have a material adverse impact on our business. In particular, the risk of a debt default by one or more European countries and related European or national financial restructuring efforts may cause volatility in the value of the Euro. In addition, foreign sales are influenced by fluctuations in currency exchange rates, primarily the Canadian dollar, Euro, South African rand, Mexican peso, British pound and Australian dollar.

We face risks relating to the expected exit of the United Kingdom from the European Union.

On June 23, 2016, the United Kingdom held a remain-or-leave referendum on the United Kingdom's membership within the European Union, the result of which favored the Brexit. A process of negotiation will likely determine the future terms of the United Kingdom's relationship with the European Union, as well as whether the United Kingdom will be able to continue to benefit from the European Union's free trade and similar agreements. The timing of the Brexit and potential impact of Brexit on our market share, sales, profitability and results of operations is unclear. Depending on the terms of Brexit, economic conditions in the United Kingdom, the European Union and global markets may be adversely affected by reduced growth and volatility. The uncertainty before, during and after the period of negotiation is also expected to have a negative economic impact and increase volatility in the markets, particularly in the Eurozone. Such volatility and negative economic impact could, in turn, adversely affect the Company's business, results of operations, financial condition and cash flows.

The risks of selling and shipping products and of purchasing products across international borders may adversely impact our revenues, results of operations and financial condition.

The sale and shipping of our products and services across international borders is subject to extensive U.S. and foreign governmental trade regulations, such as various anti-bribery laws, including the U.S. Foreign Corrupt Practices Act, export control laws, customs and import laws, and anti-boycott laws. Our failure to comply with applicable laws and regulations could result in significant criminal, civil and administrative penalties, including, but not limited to, imprisonment of individuals, fines, denial of export privileges, seizure of shipments, restrictions on certain business activities, and exclusion or debarment from government contracting. Also, the failure to comply with applicable legal and regulatory obligations could result in the disruption of our shipping and sales activities.

In addition, some countries in which our subsidiaries sell products are, to some degree, subject to political, economic and/or social instability. Our non-U.S. sales operations expose us and our representatives, agents and distributors to risks inherent in operating in non-U.S. jurisdictions. These risks include:

- the imposition of additional U.S. and non-U.S. governmental controls or regulations;
- the imposition of costly and lengthy new export licensing requirements;
- the imposition of U.S. and/or international sanctions against a country, company, person or entity with whom the company does business that would restrict or prohibit continued business with the sanctioned country, company, person or entity;
- economic and political instability or disruptions, including local and regional instability, or disruptions due to natural disasters, such as severe weather and geological events, disruptions due to civil unrest and hostilities, rioting, military activity, terror attacks or armed hostilities;
- changes in duties and tariffs, license obligations and other non-tariff barriers to trade;
- the imposition of new trade restrictions;
- imposition of restrictions on the activities of foreign agents, representatives and distributors;
- foreign tax authorities imposing significant fines, penalties and additional taxes;
- pricing pressure that we may experience internationally;
- laws and business practices favoring local companies;
- difficulties in enforcing or defending intellectual property rights; and
- exposure to different legal and political standards due to our conducting business in several foreign countries.

We cannot provide assurance that one or more of these factors will not harm our business. Additionally, we are experiencing fluidity in regulatory and pricing trends as a result of the PPACA and the Health Care and Education Reconciliation Act of 2010. Any material decrease in our non-U.S. sales would adversely impact our results of operations and financial condition.

We have substantial amount of indebtedness which could adversely affect our financial position and prevent us from fulfilling our obligations under such indebtedness, which may require us to refinance all or part of our then outstanding indebtedness. Any refinancing of this substantial indebtedness could be at significantly higher interest rates. Despite our current level of indebtedness, we may still be able to incur substantially more indebtedness. This could increase the risks associated with our substantial indebtedness.

We currently have a substantial amount of indebtedness. As of December 31, 2016, we have total debt of approximately $8.40 billion in aggregate principal amount. Our substantial indebtedness may:

- make it difficult for us to satisfy our financial obligations, including making scheduled principal and interest payments on our indebtedness;
- 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 future working capital, capital expenditures, acquisitions or other general business purposes;
- expose us to the risk of rising interest rates with respect to the borrowings under our credit facility, which are at variable rates of interest;
- 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;
- 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 we are unable to pay amounts due under our outstanding indebtedness, or to fund other liquidity needs, such as future capital expenditures, we may be required to refinance all or part of our then existing indebtedness, sell assets, reduce or delay capital expenditures or seek to raise additional capital, any of which could have a material adverse effect on our operations. There can be no assurance that we will be able to accomplish any of these alternatives on terms acceptable to us, or at all. Any refinancing of this substantial indebtedness could be at significantly higher interest rates, which will depend on the conditions of the markets and our financial condition at such time. In addition, we and our subsidiaries may be able to incur substantial additional indebtedness in the future. If new indebtedness is added to our current debt levels, the related risks that we and our subsidiaries now face could intensify.

Covenants in our debt agreements restrict our business in many ways, a default of which may result in acceleration of certain of our indebtedness.

We are subject to various covenants in the instruments governing our debt that limit our ability and/or our restricted subsidiaries' ability to, among other things:

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

A breach of any of these covenants could result in a default under our indebtedness. If there were an event of default under any of the agreements relating to our outstanding indebtedness, the holders of the defaulted debt could cause all amounts outstanding with respect to that debt to be due and payable immediately, terminate all commitments to extend further credit, enforce liens against the assets securing or otherwise supporting the debt and pursue other legal remedies. The instruments governing our debt contain cross-default or cross-acceleration provisions that may cause all of the debt issued under such instruments to become immediately due and payable as a result of a default under an unrelated debt instrument. An event of default or an acceleration under one debt agreement could cause a cross-default or cross-acceleration of other debt agreements. We cannot confirm to you that our assets or cash flow would be sufficient to fully repay borrowings under our outstanding debt instruments if the obligations thereunder were accelerated upon an event of default. We may need to conduct asset sales or elect to pursue other alternatives, including proceedings under applicable insolvency laws relating to some or all of our business. Any or all of the above could have a material adverse effect on our business, financing activities, financial conditions and operations. For a description of our indebtedness, see Note 13. Debt in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

The IRS may not agree with the conclusion that we should be treated as a non-U.S. corporation for U.S. federal income tax purposes following the Paladin transaction.

Although we are incorporated in Ireland, the U.S. Internal Revenue Service (IRS) may assert that we should be treated as a U.S. corporation (and, therefore, a U.S. tax resident) for U.S. federal income tax purposes pursuant to Section 7874 of the Internal Revenue Code (the Code). A corporation is generally considered a tax resident in the jurisdiction of its organization or incorporation for U.S. federal income tax purposes. Because we are an Irish incorporated entity, we would generally be classified as a non-U.S. corporation (and, therefore, a non-U.S. tax resident) under these rules. Section 7874 provides an exception pursuant to which a non-U.S. incorporated entity may, in certain circumstances, be treated as a U.S. corporation for U.S. federal income tax purposes.

Under Section 7874, we would be treated as a non-U.S. corporation for U.S. federal income tax purposes if the former shareholders of EHSI owned immediately after the Paladin transaction (within the meaning of Section 7874) less than 80% (by both vote and value) of Endo shares by reason of holding shares in EHSI (the ownership test). The former EHSI shareholders owned less than 80% (by both vote and value) of the shares in Endo after the Paladin merger by reason of their ownership of shares in EHSI. As a result, under current law, we are expected to be treated as a non-U.S. corporation for U.S. federal income tax purposes. There is limited guidance regarding the application of Section 7874 of the Code, including with respect to the provisions regarding the application of the ownership test. Our obligation to complete the Paladin transactions was conditional upon its receipt of a Section 7874 opinion from our counsel, Skadden, Arps, Slate, Meagher & Flom LLP (Skadden), dated as of the closing date of the Paladin transaction and subject to certain qualifications and limitations set forth therein, to the effect that Section 7874 of the Code and the regulations promulgated thereunder should not apply in such a manner so as to cause Endo to be treated as a U.S. corporation for U.S. federal income tax purposes from and after the closing date. However, an opinion of tax counsel is not binding on the IRS or a court. Therefore, there can be no assurance that the IRS will not take a position contrary to Skadden's Section 7874 opinion or that a court will not agree with the IRS in the event of litigation.

The effective rate of taxation upon our results of operations is dependent on multi-national tax considerations.

We earn a portion of our income outside the United States. That portion of our earnings is taxed at the more favorable rates applicable to the activities undertaken by our subsidiaries outside of the United States. Our effective income tax rate in the future could be adversely affected by a number of factors, including changes in the mix of earnings in countries with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities, changes in tax laws, the outcome of income tax audits, and repatriation of earnings from our subsidiaries for which we have not provided for taxes. Cash repatriations are subject to restrictions in certain jurisdictions and may be subject to withholding and other taxes. We are subject to the examination of our tax returns and tax arrangements by the IRS and other tax and governmental authorities. For example, our transfer pricing has been the subject of IRS audits, and may be the subject of future audits by the IRS or other tax authorities, and we may be subject to tax assessments or the reallocation of income among our subsidiaries. We regularly assess all of these matters to determine the adequacy of our tax provisions, which are subject to significant discretion. Although we believe our tax provisions are adequate, the final determination of tax audits and any related disputes could be materially different from our historical income tax provisions and accruals. The results of audits and disputes could have a material adverse effect on our financial statements for the period or periods for which the applicable final determinations are made.

Future changes to U.S. and non-U.S. tax laws could materially adversely affect us.

Under current law, we are expected to be treated as a non-U.S. corporation for U.S. federal income tax purposes. However, changes to the rules in Section 7874 of the Code or regulations promulgated thereunder or other guidance issued by the Treasury or the IRS could adversely affect our status as a non-U.S. corporation for U.S. federal income tax purposes, and any such changes could have prospective or retroactive application to us, EHSI, and/or their respective shareholders and affiliates. Consequently, there can be no assurance that there will not exist in the future a change in law that might cause us to be treated as a U.S. corporation for U.S. federal income tax purposes, including with retroactive effect.

In addition, recent U.S. legislative proposals would expand the scope of U.S. corporate tax residence and limit deductibility of interest and/or other payments made by our U.S. subsidiaries to non-U.S. persons from which we currently benefit. If such a change in law were enacted, it could have a material adverse effect on our financial statements.

Further, the U.S. Congress, the Organization for Economic Co-operation and Development, the European Commission 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 and there are several current legislative proposals that, if enacted, would substantially change the taxation of multinational corporations. One example is 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. As a result, the tax laws in the jurisdictions in which we operate could change on a prospective or retroactive basis, and any such changes could increase our effective tax rate, materially adversely impacting our financial statements and cash flows from operations.

We may not be able to successfully maintain our low tax rates, which could adversely affect our businesses and financial condition, results of operations and growth prospects.

We are incorporated in Ireland and also maintain subsidiaries in, amongst other jurisdictions, the United States, Canada, Mexico, India, Bermuda, the United Kingdom, Luxembourg, and South Africa. The IRS and other taxing authorities may challenge intercompany arrangements. Responding to or defending such a challenge could be expensive, consume time and other resources, and divert management's attention. We cannot predict whether taxing authorities will conduct an audit challenging our tax positions, the cost involved in responding to and defending any such audit and resulting litigation, or the outcome. 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, all of which could have a material adverse effect on our business, financial statements, results of operations and growth prospects.

Our ability to use U.S. tax attributes to offset U.S. taxable income may be limited.

Existing and future tax laws and regulations may limit our ability to use U.S. tax attributes, including net operating losses, to offset U.S. taxable income. For a period of time following the 2014 Paladin transaction, Section 7874 precludes our U.S. affiliates from utilizing U.S. tax attributes to offset taxable income if we complete certain transactions with related non-U.S. subsidiaries. In addition, the U.S. Treasury Department recently issued new temporary and proposed regulations related to corporate inversions and earnings stripping. The limitations on the use of certain tax attributes and deductions in these regulations are in addition to existing rules that could impose more restrictive limitations in the event that cumulative changes in our stock ownership within a three-year period exceed certain thresholds. Such changes or the adoption of additional limitations could impact our overall utilization of deferred tax assets, potentially resulting in a material adverse impact to our financial statements and cash flows from operations.

Any attempts to take us over will be subject to Irish Takeover Rules and subject to review by the Irish Takeover Panel.

We are subject to Irish Takeover Rules, under which our board of directors (Board of Directors) will not be permitted to take any action which might frustrate an offer for our ordinary shares once it has received an approach which may lead to an offer or has reason to believe an offer is imminent.

If pharmaceutical companies are successful in limiting the use of generics through their legislative, regulatory and other efforts, our sales of generic products may suffer.

Many pharmaceutical companies increasingly have used state and federal legislative and regulatory means to delay generic competition. These efforts have included:

- pursuing new patents for existing products which may be granted just before the expiration of earlier patents, which could extend patent protection for additional years;
- using the Citizen Petition process (e.g., under 21 C.F.R. s. 10.30) to request amendments to FDA standards;
- attempting to use the legislative and regulatory process to have drugs reclassified or rescheduled or to set definitions of abuse deterrent formulations to protect brand company patents and profits; and
- engaging in state-by-state initiatives to enact legislation that restricts the substitution of some generic drugs.

If pharmaceutical companies or other third parties are successful in limiting the use of generic products through these or other means, our sales of generic products may decline. If we experience a material decline in generic product sales, our results of operations, financial condition and cash flows will suffer.

We have limited experience in manufacturing biologic products and may encounter difficulties in our manufacturing processes, which could materially adversely affect our results of operations or delay or disrupt manufacture of those of our products that are reliant upon our manufacturing operations.

The manufacture of biologic products requires significant expertise and capital investment. Although our subsidiary, Auxilium, leased its facilities in Horsham, Pennsylvania in order to have direct control over the manufacturing of the active ingredient of XIAFLEX®, we have limited experience in manufacturing XIAFLEX® or any other biologic product. Biologics such as XIAFLEX® require processing steps that are highly complex and generally more difficult than those required for most chemical pharmaceuticals. In addition, TESTOPEL® is manufactured using a unique, proprietary process. If our manufacturing processes at the Rye, New York facility or Horsham facility are disrupted, it may be difficult to find alternate manufacturing sites. We may encounter difficulties with the manufacture of the active ingredient of XIAFLEX® or TESTOPEL®, which could delay, disrupt or halt our manufacture of XIAFLEX® and TESTOPEL®, respectively, require write-offs which may affect our financial results, result in product recalls or product liability claims or otherwise materially affect our results of operations.

Item 1B. ***Unresolved Staff Comments***

None.

Item 2. *Properties*

Our significant properties at December 31, 2016 are as follows:

Location	Purpose	Approximate Square Footage	Ownership	Lease Term End Date
Corporate Properties:				
Dublin, Ireland	Global Corporate Headquarters	17,000	Leased	August 2024
Malvern, Pennsylvania	U.S. Corporate Headquarters	300,000	Leased (1)	December 2024
Chadds Ford, Pennsylvania	Former Corporate Headquarters	49,000	Leased (2)	March 2018
Chesterbrook, Pennsylvania	Administration	75,000	Leased (3)	December 2023
U.S. Branded Pharmaceuticals Segment Properties:				
Cranbury, New Jersey	Manufacturing	33,000	Leased	February 2023
Rye, New York	Manufacturing	20,000	Leased/Owned (4)	March 2018
Horsham, Pennsylvania	Administration/Research & Development	40,000	Leased	July 2022
Horsham, Pennsylvania	Manufacturing	50,000	Leased	February 2024
U.S. Generic Pharmaceuticals Segment Properties:				
Cranbury, New Jersey	Research & Development	21,000	Leased	February 2018
Huntsville, Alabama	Generic Pharmaceuticals Distribution	280,000	Owned	N/A
Huntsville, Alabama	Distribution/Manufacturing/Laboratories	180,000	Owned	N/A
Huntsville, Alabama	Distribution/Manufacturing/Laboratories	320,000	Owned	N/A
Huntsville, Alabama	Distribution	37,000	Leased	September 2019
Charlotte, North Carolina	Distribution/Manufacturing/Laboratories	88,000	Owned (5)	N/A
Charlotte, North Carolina	Distribution/Manufacturing/Laboratories	56,000	Leased (5)	June 2018
Charlotte, North Carolina	Distribution	50,000	Leased (5)	May 2021
Chestnut Ridge, New York	Administration/Research & Development	62,000	Leased	December 2024
Irvine, California	Research & Development	27,000	Leased	August 2018
Irvine, California	Manufacturing/Distribution	41,000	Leased	March 2021
Irvine, California	Administration/Manufacturing/Quality Assurance	41,000	Leased	March 2021
Chestnut Ridge, New York	Administration/Distribution	135,000	Owned	N/A
Montebello, New York	Distribution	190,000	Leased	January 2024
Chestnut Ridge, New York	Administration/Manufacturing	120,000	Owned	N/A
Chestnut Ridge, New York	Administration/Quality Assurance	40,000	Owned	N/A
Chennai, India	Administration/Manufacturing/Research & Development	95,000	Owned	N/A
Rochester, Michigan	Administration/Manufacturing/Research & Development	320,000	Owned	N/A
Former Devices Segment Properties:				
Westmeath, Ireland	Manufacturing	34,000	Leased (6)	January 2021
Eden Prairie, Minnesota	Astora Headquarters	33,000	Leased (7)	January 2021
International Pharmaceuticals Segment Properties:				
Montreal, Canada	Paladin Headquarters	26,000	Leased	December 2018
Mexico City, Mexico	Somar Headquarters	74,000	Leased	September 2019
Mexico City, Mexico	Somar Manufacturing	340,000	Owned	N/A
Mexico City, Mexico	Somar Manufacturing	51,000	Owned	N/A
Mexico City, Mexico	Somar Manufacturing	22,000	Owned	N/A
Mexico City, Mexico	Somar Manufacturing	46,000	Leased	September 2019
Johannesburg, South Africa	Litha Administration/Distribution	34,000	Leased	September 2023

(1) Beginning January 2015, approximately 60,000 square feet of this property has been subleased.
(2) In connection with the relocation of our U.S. headquarters to Malvern, Pennsylvania, we exited these properties in early 2013. Beginning April 2016, this property has been subleased.
(3) This property is the former Auxilium headquarters and is currently not in use.
(4) Approximately 11,000 square feet of this property is leased and 9,000 square feet is owned.
(5) These properties were sold and the leases were reassigned in January 2017 as part of the disposal of our Charlotte, North Carolina manufacturing facility.
(6) As this site was associated with the manufacturing of products for our former devices segment, the facility is currently not in use.
(7) Beginning November 2016, this property has been subleased.

Item 3. ***Legal Proceedings***

The disclosures under Note 14. Commitments and Contingencies of the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules" are incorporated into this Part I, Item 3 by reference.

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 are traded on both the NASDAQ and the TSX under the ticker symbol "ENDP." The following table sets forth the quarterly high and low share price information for the periods indicated. The prices shown represent quotations between dealers, without adjustment for retail markups, markdowns or commissions, and may not represent actual transactions.

	Endo Ordinary Shares			
	NASDAQ (US$)		TSX (Cdn$)	
	High	Low	High	Low
Year Ended December 31, 2016				
1st Quarter	$ 61.14	$ 25.98	$ 84.00	$ 33.03
2nd Quarter	$ 35.34	$ 12.56	$ 44.00	$ 16.25
3rd Quarter	$ 24.93	$ 15.45	$ 32.08	$ 20.00
4th Quarter	$ 21.87	$ 13.83	$ 28.90	$ 18.59
Year Ended December 31, 2015				
1st Quarter	$ 93.03	$ 70.62	$ 117.45	$ 84.16
2nd Quarter	$ 96.58	$ 78.19	$ 119.00	$ 97.01
3rd Quarter	$ 88.54	$ 59.81	$ 114.31	$ 79.53
4th Quarter	$ 72.85	$ 46.66	$ 87.50	$ 62.00

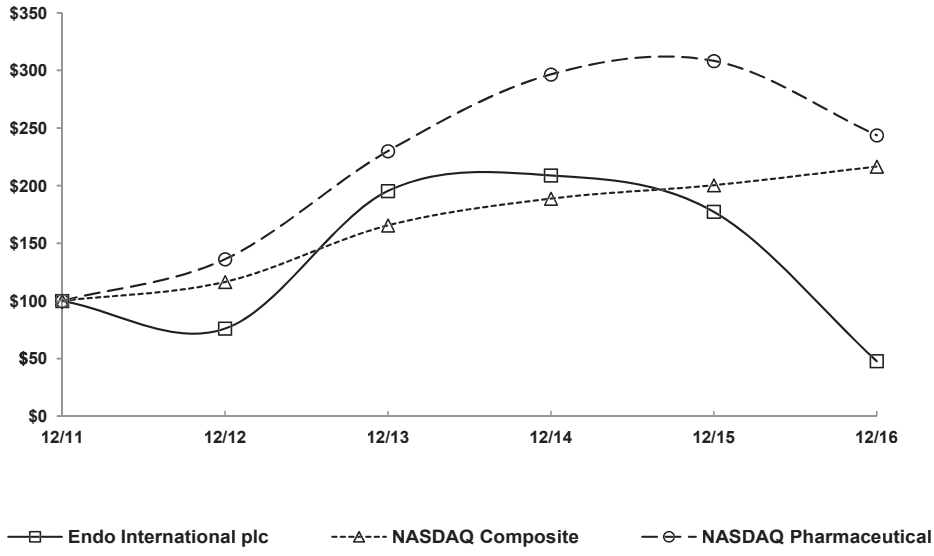
Holders. As of February 21, 2017, we estimate that there were approximately 83 holders of record of our ordinary shares.

Dividends. We have never declared or paid any cash dividends on our ordinary shares and we currently have no plans to declare a dividend. Subject to limitations imposed by Irish law and the various agreements and indentures governing our indebtedness, we are permitted to pay dividends.

Performance Graph. The following graph provides a comparison of the cumulative total shareholder return on the Company's ordinary shares with that of the cumulative total shareholder return on the (i) NASDAQ Composite Index and (ii) the NASDAQ Pharmaceutical Index, commencing on December 31, 2011 and ending December 31, 2016. The graph assumes $100 invested on December 31, 2011 in the Company's ordinary shares and in each of the comparative indices. Our historic share price performance is not necessarily indicative of future share price performance.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*

Among Endo International plc, the NASDAQ Composite Index
and the NASDAQ Pharmaceutical Index



*$100 invested on 12/31/11 in stock or index, including reinvestment of dividends.
Fiscal year ending December 31.

	December 31,					
	2011	2012	2013	2014	2015	2016
Endo International plc	$ 100.00	$ 75.96	$ 195.37	$ 208.86	$ 177.30	$ 47.70
NASDAQ Composite Index	$ 100.00	$ 116.41	$ 165.47	$ 188.69	$ 200.32	$ 216.54
NASDAQ Pharmaceutical Index	$ 100.00	$ 136.13	$ 229.92	$ 296.47	$ 308.15	$ 243.63

Recent sales of unregistered securities; Use of proceeds from registered securities.

There were no unregistered sales of equity securities by the Company during the three months ended December 31, 2016.

Purchase of Equity Securities by the issuer and affiliated purchasers

The following table reflects purchases of Endo International plc ordinary shares by the Company during the three months ended December 31, 2016:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plan	Approximate Dollar Value of Shares that May Yet be Purchased Under the Plan (1)
October 1, 2016 to October 31, 2016	—	—	—	$ 2,250,000,000
November 1, 2016 to November 30, 2016	—	—	—	$ 2,250,000,000
December 1, 2016 to December 31, 2016	—	—	—	$ 2,250,000,000
Three months ended December 31, 2016	—		—	

(1) On April 28, 2015, our Board of Directors resolved to approve a share buyback program (the 2015 Share Buyback Program), authorizing the Company to redeem in the aggregate up to $2.5 billion of its outstanding ordinary shares. In accordance with Irish Law and the Company's Articles of Association, all ordinary shares redeemed shall be cancelled upon redemption. Redemptions under this program may be made from time to time in open market or negotiated transactions or otherwise, as determined by the Transactions Committee of the Board of Directors. This program does not obligate the Company to redeem any particular amount of ordinary shares. Future redemptions, if any, will depend on factors such as levels of cash generation from operations, cash requirements for investment in the Registrant's business, repayment of future debt, if any, the then current share price, market conditions, legal limitations and other factors. The 2015 Share Buyback Program may be suspended, modified or discontinued at any time. During November 2015, the Company repurchased 4.4 million ordinary shares totaling $250.0 million, not including related fees.

Item 6. ***Selected Financial Data***

The consolidated financial data presented below have been derived from our financial statements. The selected historical consolidated financial data presented below should be read in conjunction with Part II, Item 7 of this report "Management's Discussion and Analysis of Financial Condition and Results of Operations" and Part II, Item 8 of this report "Financial Statements and Supplementary Data". The selected data in this section is not intended to replace the Consolidated Financial Statements. The information presented below is not necessarily indicative of the results of our future operations. See Note 3. Discontinued Operations and Held for Sale in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules" and below for further discussion on reclassifications to conform to the current presentation.

	Year Ended December 31,				
	2016	2015	2014	2013	2012
	(dollars in thousands, except per share data)				
Consolidated Statement of Operations Data:					
Total revenues	$ 4,010,274	$ 3,268,718	$ 2,380,683	$ 2,124,681	$ 2,311,249
Operating (loss) income from continuing operations	(3,471,515)	(933,475)	326,482	517,225	177,360
(Loss) income from continuing operations before income tax	(3,923,856)	(1,437,864)	99,875	385,366	(12,049)
(Loss) income from continuing operations	(3,223,772)	(300,399)	61,608	241,624	(50,871)
Discontinued operations, net of tax	(123,278)	(1,194,926)	(779,792)	(874,038)	(637,150)
Consolidated net loss	(3,347,050)	(1,495,325)	(718,184)	(632,414)	(688,021)
Less: Net income (loss) attributable to noncontrolling interests	16	(283)	3,135	52,925	52,316
Net loss attributable to Endo International plc	$(3,347,066)	$(1,495,042)	$ (721,319)	$ (685,339)	$ (740,337)
Basic and Diluted net (loss) income per share attributable to Endo International plc:					
Continuing operations—basic	$ (14.48)	$ (1.52)	$ 0.42	$ 2.13	$ (0.44)
Discontinued operations—basic	(0.55)	(6.07)	(5.33)	(8.18)	(5.96)
Basic	$ (15.03)	$ (7.59)	$ (4.91)	$ (6.05)	$ (6.40)
Continuing operations—diluted	$ (14.48)	$ (1.52)	$ 0.40	$ 2.02	$ (0.44)
Discontinued operations—diluted	(0.55)	(6.07)	(5.00)	(7.74)	(5.96)
Diluted	$ (15.03)	$ (7.59)	$ (4.60)	$ (5.72)	$ (6.40)
Shares used to compute net loss per share attributable to Endo International plc—Basic	222,651	197,100	146,896	113,295	115,719
Shares used to compute net loss per share attributable to Endo International plc—Diluted	222,651	197,100	156,730	119,829	115,719
Cash dividends declared per share	$ —	$ —	$ —	$ —	$ —

	As of and for the Year Ended December 31,				
	2016	2015	2014	2013	2012
	(dollars in thousands)				
Consolidated Balance Sheet Data:					
Cash and cash equivalents	$ 517,250	$ 272,348	$ 405,696	$ 526,597	$ 529,689
Total assets	14,275,109	19,350,336	10,824,169	6,510,810	6,510,694
Long-term debt, less current portion, net	8,141,378	8,251,657	4,100,627	3,262,798	2,977,166
Other long-term obligations, including capitalized leases	797,397	1,656,391	1,149,353	910,552	588,803
Total Endo International plc shareholders' equity	2,701,589	5,968,030	2,374,757	526,018	1,072,856
Noncontrolling interests	—	(54)	33,456	59,198	60,350
Total shareholders' equity	$ 2,701,589	$ 5,967,976	$ 2,408,213	$ 585,216	$ 1,133,206
Other Financial Data:					
Net cash provided by operating activities	$ 524,439	$ 62,026	$ 337,776	$ 298,517	$ 733,879
Net cash provided by (used in) investing activities	$ 125,861	$(6,244,770)	$ (771,853)	$ (883,639)	$ (88,467)
Net cash (used in) provided by financing activities	$ (393,982)	$ 6,055,467	$ 302,857	$ 579,525	$ (645,547)

The comparability of the forgoing information is impacted by certain charges for asset impairments and certain litigation-related and other matters during each year presented, portions of which are reported as Discontinued operations, net of tax in the Consolidated Statements of Operations, and a number of significant acquisitions that have occurred since 2012, along with the debt incurred to finance these acquisitions. These business combinations have had a significant impact on the Company's financial statements in their respective years of acquisition and in subsequent years. This impact results from the consideration transferred by the Company for the acquisition, the initial and subsequent purchase accounting for the acquired entity's assets and liabilities and the post-acquisition results of operations.

Through the date of the sale of the HealthTronics, Inc. (HealthTronics) business in February 2014, the sale of the Men's Health and Prostate Health business in August 2015, and the wind down of our Astora business in March 2016, the assets and liabilities of all of these aforementioned businesses are classified as held for sale in the Consolidated Balance Sheets for all periods presented. The operating results of the HealthTronics and the entire American Medical Systems Holdings, Inc. (AMS) business, which includes Men's Health and Prostate Health and Astora, are reported as Discontinued operations, net of tax in the Consolidated Statements of Operations for all periods presented. For additional information, see Note 3. Discontinued Operations and Held for Sale in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

For further information regarding the comparability of the financial data presented in the tables above and factors that may impact comparability of future results, see Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations as well as the Consolidated Financial Statements and related notes included in this report and previously filed Annual Reports on Form 10-K.

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

The following Management's Discussion and Analysis of Financial Condition and Results of Operations describes the principal factors affecting the results of operations, liquidity and capital resources and critical accounting estimates at Endo International plc. This discussion should be read in conjunction with our audited Consolidated Financial Statements and related notes thereto. Except for the historical information contained in this Report, including the following discussion, this Report contains forward-looking statements that involve risks and uncertainties. See "Forward-Looking Statements" beginning on page 1 of this Report.

In prior periods, our Consolidated Financial Statements present the accounts of Endo Health Solutions Inc., which was incorporated under the laws of the State of Delaware on November 18, 1997, and all of its subsidiaries (EHSI). Endo International plc was incorporated in Ireland on October 31, 2013 as a private limited company and re-registered effective February 18, 2014 as a public limited company. Endo International plc was established for the purpose of facilitating the business combination between EHSI and Paladin Labs Inc. (Paladin). On February 28, 2014, we became the successor registrant of EHSI and Paladin in connection with the consummation of certain transactions further described elsewhere in our Consolidated Financial Statements. The ordinary shares of Endo International plc are traded on the NASDAQ Global Market (NASDAQ) and the Toronto Stock Exchange (TSX) under the ticker symbol "ENDP," the same symbol under which EHSI's shares previously traded. References throughout to "ordinary shares" refer to EHSI's common shares, 350,000,000 authorized, par value $0.01 per share, prior to the consummation of the February 2014 transactions and to Endo International plc's ordinary shares, 1,000,000,000 authorized, par value $0.0001 per share, subsequent to the consummation of these transactions. In addition, on February 11, 2014 Endo International plc issued 4,000,000 euro deferred shares of $0.01 each at par.

References throughout to "Endo," the "Company," "we," "our" or "us" refer to financial information and transactions of Endo Health Solutions Inc. and its consolidated subsidiaries prior to February 28, 2014 and Endo International plc and its consolidated subsidiaries thereafter.

Through the date of their sales in February 2014 and August 2015, the assets and liabilities of the HealthTronics, Inc. (Healthtronics) and the Men's Health and Prostate Health businesses, respectively, are classified as held for sale in the Consolidated Balance Sheets for all periods presented. The operating results of the HealthTronics and the entire American Medical Systems Holdings, Inc. (AMS) business, which includes Men's Health and Prostate Health and the Women's Health Business (referred to herein as Astora), are reported as Discontinued operations, net of tax in the Consolidated Statements of Operations for all periods presented. For additional information, see Note 3. Discontinued Operations and Held for Sale in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

EXECUTIVE SUMMARY

Endo International plc is an Ireland-domiciled, global specialty pharmaceutical company focused on generic and branded pharmaceuticals. We aim to be the premier partner to healthcare professionals and payment providers, delivering an innovative suite of generic and branded drugs to meet patients' needs. This executive summary provides highlights from the results of operations that follow:

- Total revenues in 2016 increased 23% to $4,010.3 million from 2015. This revenue increase was primarily attributable to revenues related to our September 2015 acquisition of Par Pharmaceutical Holdings, Inc. (Par). The increase was partially offset by decreased revenues for certain products in our U.S. Branded Pharmaceuticals segment, driven mainly by decreased Voltaren® Gel, Lidoderm®, OPANA® ER and Frova® revenues related to generic competition and decreased revenues from our legacy U.S. Generic Pharmaceuticals segment as a result of competitive pressure on commoditized generic products.
- Gross margin for 2016 decreased to 34% from 36% in 2015. This decrease was primarily attributable to the mix of revenue being more heavily weighted toward lower margin generic pharmaceutical product sales as compared to the higher margin branded products, increased intangible asset amortization of $315.1 million for 2016 and charges to increase excess inventory reserves.
- Asset impairment charges in 2016 increased to $3,781.2 million compared to $1,140.7 million in 2015 driven primarily by goodwill and intangible asset impairment charges in our Generics, Paladin, Litha, and Somar reporting units.
- During the year ended December 31, 2016, the Company recognized an income tax benefit of $700.1 million on $3,923.9 million of loss from continuing operations before income tax, compared to $1,137.5 million of tax benefit on $1,437.9 million of loss from continuing operations before income tax during the comparable 2015 period. During the year ended December 31, 2016, the Company completed a legal entity restructuring as part of its continuing integration of its business. This resulted in the realization of a $636.1 million tax benefit arising from an outside basis difference that was reduced by a $394.6 million charge for the establishment of a valuation allowance on a portion of the Company's U.S. deferred tax assets. The tax benefit for the comparable 2015 period was primarily related to losses from continued operations combined with benefits resulting from the expected realization of deferred tax assets for certain components of the Company's AMS business arising from tax refunds relating to the carryback of net operating losses.
- Loss from continuing operations for 2016 increased to $3,223.8 million from $300.4 million for the year ended December 31, 2015, primarily attributable to the goodwill and intangible asset impairments noted above.

CRITICAL ACCOUNTING ESTIMATES

To understand our financial statements, it is important to understand our critical accounting estimates. The preparation of our financial statements in conformity with accounting principles generally accepted in the U.S. (U.S. GAAP) requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant estimates and assumptions are required in the determination of revenue recognition and sales deductions for estimated chargebacks, rebates, sales incentives and allowances, certain royalties, distribution service fees, returns and allowances. Significant estimates and assumptions are also required when determining the fair value of financial instruments, the valuation of long-lived assets, income taxes, contingencies and stock-based compensation. Some of these judgments can be subjective and complex, and consequently, actual results may differ from these estimates. For any given individual estimate or assumption made by us, there may also be other estimates or assumptions that are reasonable. Although we believe that our estimates and assumptions are reasonable, they are based upon information available at the time the estimates and assumptions were made. Actual results may differ significantly from our estimates.

We consider an accounting estimate to be critical if: (1) the accounting estimate requires us to make assumptions about matters that were highly uncertain at the time the accounting estimate was made, and (2) changes in the estimate that are reasonably likely to occur from period to period, or use of different estimates that we reasonably could have used in the current period, would have a material impact on our financial condition, results of operations or cash flows. Our most critical accounting estimates are described below:

Revenue recognition

Pharmaceutical Products

Our net pharmaceutical product sales consist of revenues from sales of our pharmaceutical products, less estimates for chargebacks, rebates, sales incentives and allowances, certain royalties, distribution service fees, returns and allowances as well as fees for services. We recognize revenue for product sales when title and risk of loss has passed to the customer, which is typically upon delivery to the customer, when estimated provisions for revenue reserves are reasonably determinable, and when collectability is reasonably confirmed. Revenue from the launch of a new or significantly unique product may be deferred until such time that the product has achieved market acceptance. For these products, revenue is typically recognized based on dispensed prescription data and other information obtained prior to and during the period following launch.

Decisions made by wholesaler customers and large retail chain customers regarding the levels of inventory they hold (and thus the amount of product they purchase from us) can materially affect the level of our sales in any particular period and thus may not correlate to the number of prescriptions written for our products based on external third-party data. We believe that speculative buying of product, particularly in anticipation of possible price increases, has been the historical practice of many pharmaceutical wholesalers. Our wholesaler customers, as well as others in the industry, structure their arrangements where they charge a fee for their services. Accordingly, we have entered into distribution service agreements (DSAs) with certain of our significant wholesaler customers. These agreements obligate the wholesalers to provide us with specific services, including the provision of periodic retail demand information and current inventory levels for our branded products held at their warehouse locations; additionally, under these DSAs, the wholesalers have agreed to manage the variability of their purchases and inventory levels within specified limits based on product demand.

We received information from certain of our wholesaler customers about the quantities of inventory they held for our generic and branded products. Based on this information, which we have not independently verified, we believe that inventory related to our generic and branded products held at these wholesalers is within a reasonable range as compared to historical wholesaler held inventory amounts and to expected demand for each respective product market at December 31, 2016. We also estimated inventory quantities held at other wholesalers based on buying patterns and believe these levels are within reasonable ranges at December 31, 2016. In addition, we evaluated market conditions for products primarily through the analysis of wholesaler and other third party sell-through, as well as internally-generated information to assess factors that could impact expected product demand as of December 31, 2016.

Sales deductions

When we recognize revenue from the sale of our products, we simultaneously record an adjustment to revenue for estimated chargebacks, rebates, sales incentives and allowances, certain royalties, DSA fees, returns and allowances. These provisions, as described in greater detail below, are estimated based on historical experience, estimated future trends, estimated customer inventory levels, current contract sales terms with our direct and indirect customers and other competitive factors. If the assumptions we used to calculate these adjustments do not appropriately reflect future activity, our financial position, results of operations and cash flows could be materially impacted. The following table presents the activity and ending balances, excluding Discontinued operations and assets and liabilities held for sale, for our product sales provisions for the three years ended December 31 (in thousands):

	Returns and Allowances	Rebates	Chargebacks	Other Sales Deductions	Total
Balance, January 1, 2014	$ 104,699	$ 336,084	$ 118,014	$ 12,897	$ 571,694
Additions related to acquisitions	13,512	985	234	653	15,384
Current year provision	104,768	1,260,210	1,227,102	42,789	2,634,869
Prior year provision	(5,531)	3,000	(320)	—	(2,851)
Payments or credits	(42,508)	(1,102,917)	(1,127,628)	(30,959)	(2,304,012)
Balance, December 31, 2014	$ 174,940	$ 497,362	$ 217,402	$ 25,380	$ 915,084
Additions related to acquisitions	129,281	184,290	117,236	27,970	458,777
Current year provision	146,615	1,604,062	2,272,896	148,090	4,171,663
Prior year provision	4,070	(12,604)	(7,011)	—	(15,545)
Payments or credits	(97,974)	(1,449,953)	(2,221,307)	(154,638)	(3,923,872)
Balance, December 31, 2015	$ 356,932	$ 823,157	$ 379,216	$ 46,802	$ 1,606,107
Current year provision	122,414	1,562,340	3,125,109	332,721	5,142,584
Prior year provision	(7,199)	(18,705)	4,707	311	(20,886)
Payments or credits	(139,396)	(1,878,602)	(3,162,423)	(312,829)	(5,493,250)
Balance, December 31, 2016	$ 332,751	$ 488,190	$ 346,609	$ 67,005	$ 1,234,555

Returns and Allowances

Our provision for returns and allowances consists of our estimates of future product returns, pricing adjustments and delivery errors. Consistent with industry practice, we maintain a return policy that allows our customers to return product within a specified period of time both prior and subsequent to the product's expiration date. Our return policy generally allows customers to receive credit for expired products within six months prior to expiration and within one year after expiration. The primary factors we consider in estimating our potential product returns include:

- the shelf life or expiration date of each product;
- historical levels of expired product returns;
- external data with respect to inventory levels in the wholesale distribution channel;
- external data with respect to prescription demand for our products; and
- estimated returns liability to be processed by year of sale based on analysis of lot information related to actual historical returns.

In determining our estimates for returns and allowances, we are required to make certain assumptions regarding the timing of the introduction of new products and the potential of these products to capture market share. In addition, we make certain assumptions with respect to the extent and pattern of decline associated with generic competition. To make these assessments, we utilize market data for similar products as analogs for our estimations. We use our best judgment to formulate these assumptions based on past experience and information available to us at the time. We continually reassess and make the appropriate changes to our estimates and assumptions as new information becomes available to us.

Our estimate for returns and allowances may be impacted by a number of factors, but the principal factor relates to the level of inventory in the distribution channel. When we are aware of an increase in the level of inventory of our products in the distribution channel, we consider the reasons for the increase to determine if the increase may be temporary or other-than-temporary. Increases in inventory levels assessed as temporary will not result in an adjustment to our provision for returns and allowances. Other-than-temporary increases in inventory levels, however, may be an indication that future product returns could be higher than originally anticipated and, accordingly, we may need to adjust our estimate for returns and allowances. Some of the factors that may be an indication that an increase in inventory levels will be temporary include:

- recently implemented or announced price increases for our products; and
- new product launches or expanded indications for our existing products.

Conversely, factors that may be an indication that an increase in inventory levels will be other-than-temporary include:

- declining sales trends based on prescription demand;
- recent regulatory approvals to shorten the shelf life of our products, which could result in a period of higher returns related to older product with the shorter shelf life;
- introduction of new product or generic competition;
- increasing price competition from generic competitors; and
- recent changes to the National Drug Codes (NDCs) of our products, which could result in a period of higher returns related to product with the old NDC, as our customers generally permit only one NDC per product for identification and tracking within their inventory systems.

Rebates

We establish contracts with wholesalers, chain stores and indirect customers that provide for rebates, sales incentives, DSA fees, and other allowances. Some customers receive rebates upon attaining established sales volumes. We estimate rebates, sales incentives and other allowances based upon the terms of the contracts with our customers, historical experience, estimated inventory levels of our customers and estimated future trends. Our rebate programs can generally be categorized into the following four types:

- direct rebates;
- indirect rebates;
- managed care rebates; and
- Medicaid and Medicare Part D rebates.

Direct rebates are generally rebates paid to direct purchasing customers based on a percentage applied to a direct customer's purchases from us, including DSA fees paid to wholesalers under our DSA's, as described above. Indirect rebates are rebates paid to indirect customers which have purchased our products from a wholesaler under a contract with us.

We are subject to rebates on sales made under governmental and managed-care pricing programs. In estimating our provisions for these types of rebates, we consider relevant statutes with respect to governmental pricing programs and contractual sales terms with managed-care providers and group purchasing organizations. Starting in 2011, as a result of the implementation of certain provisions of the Patient Protection and Affordable Care Act (PPACA), we are required to provide a 50% discount on our brand-name drugs to patients who fall within the Medicare Part D coverage gap, also referred to as the donut hole. We estimate an accrual for Managed Care, Medicaid, Medicare Part D and Coverage Gap rebates as a reduction of revenue at the time product sales are recorded. These rebate reserves are estimated based upon the historical utilization levels, historical payment experience, historical relationship to revenues, estimated future trends, and include an estimate of outstanding claims for end-customer sales that occurred but for which the related claim has not been billed and an estimate for future claims that will be made when inventory in the distribution channel is sold through to plan participants. Changes in the level of utilization of our products through private or public benefit plans and group purchasing organizations will affect the amount of rebates that we owe.

We participate in state government-managed Medicaid programs, as well as certain other qualifying federal and state government programs whereby discounts and rebates are provided to participating government entities. Medicaid rebates are amounts owed based upon contractual agreements or legal requirements with public sector (Medicaid) benefit providers, after the final dispensing of the product by a pharmacy to a benefit plan participant. Medicaid reserves are based on expected payments, which are driven by patient usage, contract performance, as well as field inventory that will be subject to a Medicaid rebate. Medicaid rebates are typically billed up to 180 days after the product is shipped, but can be as much as 270 days after the quarter in which the product is dispensed to the Medicaid participant. In addition to the estimates mentioned above, our calculation also requires other estimates, such as estimates of sales mix, to determine which sales are subject to rebates and the amount of such rebates. Periodically, we adjust the Medicaid rebate provision based on actual claims paid. Due to the delay in billing, adjustments to actual claims paid may incorporate revisions of this provision for several periods. Medicaid pricing programs involve particularly difficult interpretations of statutes and regulatory guidance, which are complex and thus our estimates could differ from actual experience.

We continually update these factors based on new contractual or statutory requirements and significant changes in sales trends that may impact the percentage of our products subject to rebates.

Chargebacks

The provision for chargebacks is one of the most significant estimates used in the recognition of our revenue. We market and sell products directly to wholesalers, distributors, warehousing pharmacy chains, and other direct purchasing groups. We also market products indirectly to independent pharmacies, non-warehousing chains, managed care organizations, and group purchasing organizations, collectively referred to as indirect customers. We enter into agreements with some indirect customers to establish contract pricing for certain products. These indirect customers then independently select a wholesaler from which to purchase the products at these contracted prices. Alternatively, we may pre-authorize wholesalers to offer specified contract pricing to other indirect customers, including government entities. Under either arrangement, we provide credit to the wholesaler for any difference between the contracted price with the indirect customer and the wholesaler's invoice price. Such credit is called a chargeback. The primary factors we consider in developing and evaluating our provision for chargebacks include:

- the average historical chargeback credits;
- estimated future sales trends; and
- an estimate of the inventory held by our wholesalers, based on internal analysis of a wholesaler's historical purchases and contract sales.

Other sales deductions

We offer certain of our customers prompt pay cash discounts. Provisions for prompt pay discounts are estimated and recorded at the time of sale. We estimate provisions for cash discounts based on contractual sales terms with customers, an analysis of unpaid invoices and historical payment experience. Estimated cash discounts have historically been predictable and less subjective due to the limited number of assumptions involved, the consistency of historical experience and the fact that we generally settle these amounts within 30 to 60 days.

Shelf-stock adjustments are credits issued to our customers to reflect decreases in the selling prices of our products. These credits are customary in the industry and are intended to reduce a customer's inventory cost to better reflect current market prices. The determination to grant a shelf-stock credit to a customer following a price decrease is at our discretion rather than contractually required. The primary factors we consider when deciding whether to record a reserve for a shelf-stock adjustment include:

- the estimated number of competing products being launched as well as the expected launch date, which we determine based on market intelligence;
- the estimated decline in the market price of our product, which we determine based on historical experience and customer input; and
- the estimated levels of inventory held by our customers at the time of the anticipated decrease in market price, which we determine based upon historical experience and customer input.

Valuation of long-lived assets

Long-lived assets, including property, plant and equipment, licenses, developed technology, trade names and patents are assessed for impairment whenever events or changes in circumstances indicate the carrying amount of the asset may not be recoverable. Recoverability of assets that will continue to be used in our operations is measured by comparing the carrying amount of the asset to the forecasted undiscounted future cash flows related to the asset. In the event the carrying value of the asset exceeds its undiscounted future cash flows and the carrying value is not considered recoverable, impairment may exist. An impairment loss, if any, is measured as the excess of the asset's carrying value over its fair value, generally based on a discounted future cash flow method, independent appraisals or preliminary offers from prospective buyers. An impairment loss would be recognized in the Consolidated Statements of Operations in the period that the impairment occurs. As a result of the significance of our amortizable intangibles, any recognized impairment loss could have a material adverse impact on our financial position and results of operations.

During 2016, we recorded intangible asset impairments of $1,105.2 million. These impairment charges were based on fair value estimates determined using discounted cash flow models. The discounted cash flow models include assumptions related to product revenue, growth rates and operating margin and are based on management's annual and ongoing forecasting, budgeting and planning processes and represent our best estimate of future product cash flows. These estimates are subject to the economic environment in which our segments operate, demand for our products and competitor actions. The use of different assumptions would increase or decrease our estimated discounted future cash flows and the resulting estimated fair value of these intangible assets causing an increase or decrease in the respective intangible asset impairment charge. The discount rates applied to these estimated cash flows ranged from 8.5% to 11.0%.

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 line in relation to expectations, significant negative industry or economic trends and significant changes or planned changes in our use of the assets.

Our reviews of long-lived assets during the three years ended December 31, 2016 resulted in certain asset impairment charges, which are described in Note 10. Goodwill and Other Intangibles in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

License Rights - The cost of licenses are either expensed immediately or, if capitalized, are recorded at fair value and amortized using the straight-line method over their estimated useful lives ranging from 3 to 15 years, with a weighted average useful life of approximately 12 years. We determine amortization periods for licenses based on our assessment of various factors impacting estimated useful lives and cash flows of the acquired rights. Such factors include the expected launch date of the product, the strength of the intellectual property protection of the product and various other competitive, developmental and regulatory issues, and contractual terms. Significant changes to any of these factors may result in a reduction in the useful life of the asset and an acceleration of related amortization expense, which could cause our operating income, net income and net income per share to decrease. The value of these licenses is subject to continuing scientific, medical and marketplace uncertainty.

Trade Names - Acquired trade names are recorded at fair value upon acquisition and, if deemed to have definite lives, are amortized using the straight-line method over their estimated useful lives of approximately 12 years. We determine amortization periods for trade names based on our assessment of various factors impacting estimated useful lives and cash flows from the acquired assets. Such factors include the strength of the trade name and our plans regarding the future use of the trade name. Significant changes to any of these factors may result in a reduction in the useful life of the asset and an acceleration of related amortization expense, which could cause our operating income, net income and net income per share to decrease.

Developed Technology - Acquired developed technology is recorded at fair value upon acquisition and is amortized using the economic benefit model or the straight-line method, over the estimated useful life ranging from 1 to 20 years for our intangibles, with a weighted average useful life of approximately 11 years. We determine amortization periods and method of amortization for developed technology based on our assessment of various factors impacting estimated useful lives and timing and extent of estimated cash flows of the acquired assets. Such factors include the strength of the intellectual property protection of the product and various other competitive and regulatory issues, and contractual terms. Significant changes to any of these factors may result in a reduction in the useful life of the asset and an acceleration of related amortization expense, which could cause our operating income, net income and net income per share to decrease. Amortization expense is not recorded on assets held for sale. The value of these assets is subject to continuing scientific, medical and marketplace uncertainty.

Goodwill and indefinite-lived intangible assets

As of December 31, 2016 and 2015, goodwill and other intangibles comprised approximately 74% and 78%, respectively, of our total assets.

Endo tests goodwill and indefinite-lived intangible assets for impairment annually, or more frequently whenever events or changes in circumstances indicate that the asset might be impaired. Our annual assessment is performed as of October 1st. The goodwill test consists of a Step I analysis that requires a comparison between the respective reporting unit's fair value and carrying amount. A Step II analysis would be required if the fair value of the reporting unit is lower than its carrying amount. If the fair value of the reporting unit exceeds its carrying amount, an impairment does not exist and no further analysis is required. The indefinite-lived intangible asset impairment test consists of a one-step analysis that compares the fair value of the intangible asset with its carrying amount. If the carrying amount of an indefinite-lived intangible asset exceeds its fair value, an impairment loss is recognized in an amount equal to that excess. For the purpose of the October 1, 2016 annual goodwill impairment test, the Company had five operating segments and reporting units: (1) Branded, (2) Generics, (3) Paladin, (4) Litha, and (5) Somar.

The fair values of our reporting units are determined using an income approach that utilizes a discounted cash flow model, or, where appropriate, a market approach, or a combination thereof. The discounted cash flow models are dependent upon our estimates of future cash flows and other factors. Our estimates of future cash flows involve assumptions concerning (i) future operating performance, including future sales, long-term growth rates, operating margins, variations in the amount and timing of cash flows and the probability of achieving the estimated cash flows and (ii) future economic conditions, all which may differ from actual future cash flows. These assumptions are based on significant inputs not observable in the market and thus represent Level 3 measurements within the fair value hierarchy. Estimated future cash flows are discounted to present value using a market participant, weighted average cost of capital. The financial and credit market volatility directly impacts certain inputs and assumptions used to develop the weighted average cost of capital such as the risk-free interest rate, industry beta, debt interest rate, and our market capital structure. Therefore, changes in these assumptions may affect our fair value estimate and the result of the impairment test. The discount rates applied to the estimated cash flows for our October 1, 2016 annual goodwill and indefinite-lived intangible assets impairment test ranged from 8.5% to 11.0%, depending on the overall risk associated with the particular assets and other market factors. We believe the discount rates and other inputs and assumptions are consistent with those that a market participant would use.

Assumptions related to revenue, growth rates and operating margin are based on management's annual and ongoing forecasting, budgeting and planning processes and represent our best estimate of the future results of operations across the company as of that point in time. These estimates are subject to many assumptions, such as the economic environment in which our segments operate, demand for our products and competitor actions. The use of different assumptions would increase or decrease our estimated discounted future cash flows and the resulting estimated fair value of our reporting units, and could result in the fair value of a reporting unit being less than its carrying value in the first step of the impairment test.

In order to assess the reasonableness of the calculated fair values of our reporting units, we also compare the sum of the reporting units' fair values to Endo's market capitalization and calculate an implied control premium (the excess sum of the reporting unit's fair values over the market capitalization) or an implied control discount (the excess sum of total invested capital over the sum of the reporting unit's fair values). The Company evaluates the implied control premium or discount by comparing it to control premiums or discounts of recent comparable market transactions, as applicable. If the control premium or discount is not reasonable in light of comparable recent transactions, or recent movements in the Company's share price, we reevaluate the fair value estimates of the reporting units by adjusting discount rates and/or other assumptions. This re-evaluation could correlate to different implied fair values for certain or all of the Company's reporting units.

As a result of our annual goodwill test performed as of October 1st, 2016, the Company recorded pre-tax, non-cash impairment charges relating to our Generics, Paladin, Litha and Somar reporting units for an aggregate total of $2,674.5 million. For a complete description of goodwill impairment charges recorded for the years ended December 31, 2016 and 2015, refer to Note 10. Goodwill and Other Intangibles in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules". The Generics reporting unit represented $2,342.5 million of the total goodwill charge. A 50 basis point increase in the assumed discount rate utilized or a 1% decrease in the annual growth rate would have increased our Generics reporting unit goodwill impairment charge by approximately $440 million and $400 million, respectively.

Our annual goodwill test for the U.S. Branded reporting unit indicated the fair value exceeded its carrying value; therefore, an impairment charge was not required as of October 1st, 2016. An increase of 50 basis points to our assumed discount rate used in testing this reporting unit would not have changed the results of our analysis. In addition, a 10% reduction of annual cash flows used in testing the U.S. Branded reporting unit would not have changed the results of our analysis.

Changes to assumptions used to determine fair value, including, but not limited to, projections of future cash flows and our weighted average cost of capital, or significant declines in our stock price could result in additional non-cash impairment charges to goodwill or other long-lived assets, which could be material. As of December 31, 2016, our combined goodwill and intangible assets balance is approximately $10.6 billion.

Acquisition-related in-process research and development

Acquired businesses are accounted for using the acquisition method of accounting, which requires that the purchase price be allocated to the net assets acquired at their respective fair values. Any excess of the purchase price over the estimated fair values of the net assets acquired is recorded as goodwill. Amounts allocated to acquired in-process research and development (IPR&D) are recorded to the balance sheet at the date of acquisition based on their relative fair values. The judgments made in determining the estimated fair value assigned to each class of assets acquired and liabilities assumed, as well as asset lives, can materially impact our results of operations.

There are several methods that can be used to determine the fair value of assets acquired and liabilities assumed. For intangible assets, including IPR&D, we typically use the income method. This method starts with our forecast of all of the expected future net cash flows. These cash flows are then adjusted to present value by applying an appropriate discount rate that reflects the risk factors associated with the cash flow streams. Some of the more significant estimates and assumptions inherent in the income method or other methods include: the amount and timing of projected future cash flows; the amount and timing of projected costs to develop the IPR&D into commercially viable products; the discount rate selected to measure the risks inherent in the future cash flows; and the assessment of the asset's life cycle and the competitive trends impacting the asset, including consideration of any technical, legal, regulatory, or economic barriers to entry, as well as expected changes in standards of practice for indications addressed by the asset.

Determining the useful life of an intangible asset also requires judgment, as different types of intangible assets will have different useful lives. Acquired IPR&D is designated as an indefinite-lived intangible asset until the associated research and development activities are completed or abandoned.

Income taxes

Our income tax expense, deferred tax assets and liabilities, and reserves for unrecognized tax benefits reflect our best assessment of estimated current and future taxes to be paid. We are subject to income taxes in the United States and numerous other foreign jurisdictions. Significant judgments and estimates are required in determining the consolidated income tax expense for financial statement purposes. Deferred income taxes arise from temporary differences between the tax basis of assets and liabilities and their reported amounts in the financial statements that result in future taxable or deductible amounts. In assessing the ability to realize deferred tax assets, we consider future taxable income by tax jurisdiction and tax planning strategies. We record a valuation allowance to reduce our deferred tax assets to equal an amount that is more likely than not to be realized. In projecting future taxable income, we begin with historical results adjusted for the results of discontinued operations and incorporate assumptions about the amount of future earnings within a specific jurisdiction's pretax operating income adjusted for material changes in business operations. The assumptions about future taxable income require significant judgment and are consistent with the plans and estimates we are using to manage the underlying businesses.

Future changes in tax laws and rates could also affect recorded deferred tax assets and liabilities. The calculation of our tax liabilities often involves dealing with uncertainties in the application of complex tax laws and regulations in a multitude of jurisdictions across our global operations. A benefit from an uncertain tax position may be recognized when it is more likely than not that the position will be sustained on the basis of the technical merits upon examination, including resolutions of any related appeals or litigation processes. We first record unrecognized tax benefits as liabilities and then adjust these liabilities when our judgment changes as a result of the evaluation of new information not previously available at the time of establishing the liability. Because of the complexity of some of these uncertainties, the ultimate resolution may result in a payment that is materially different from our current estimate of the unrecognized tax benefit liabilities. These differences will be reflected as increases or decreases to income tax expense in the period in which new information is available.

We consider the earnings of the majority of our subsidiaries to be indefinitely invested within their country of incorporation on the basis of estimates that future cash generation will be sufficient to meet future cash needs and our specific plans for reinvestment of those subsidiary earnings. Should we decide to repatriate earnings, we would need to adjust our income tax provision in the period we determined that the earnings will no longer be indefinitely invested outside the relevant tax jurisdiction.

Contingencies

The Company is subject to various patent, product liability, government investigations and other legal proceedings in the ordinary course of business. The factors we consider in developing our contingent accruals for product liability litigation and other contingent liability items include the merits and jurisdiction of the litigation, the nature and the number of other similar current and past litigation cases, the nature of the product and the current assessment of the science subject to the litigation, and the likelihood of the conditions of settlement being met. As of December 31, 2016, the Company has accrued $1,015.9 million, of which $963.1 million relates to vaginal mesh cases, for all known claims for which a liability is probable. In addition to claims covered by MSAs, we are currently aware of approximately 9,700 claims that have been filed, asserted or that we believe are likely to be asserted that have not been accrued for because we lack sufficient information to determine whether any potential loss is probable. In addition, there may be other claims asserted in the future. It is currently not possible to estimate the number or validity of any such claims. Although we believe there is a reasonable possibility that a loss in excess of the amount recognized exists, we are unable to estimate the possible loss or range of loss in excess of the amount recognized at this time.

Our vaginal mesh accrual is primarily based on Master Settlement Agreements (MSAs) between AMS and certain plaintiffs' counsel representing mesh-related product liability claimants. AMS has agreed to settle up to approximately 49,000 filed and unfiled mesh claims handled or controlled by the participating counsel. All MSAs are subject to a process that includes guidelines and procedures for administering the settlements and the release of funds. In certain cases, the MSAs provide for the creation of Qualified Settlement Funds into which funds may be deposited pursuant to certain schedules set forth in those agreements. All MSAs have participation thresholds regarding the claims represented by each law firm party to the MSA. If certain participation thresholds are not met, then we will have the right to terminate the settlement with that law firm. We expect that valid claims under the MSAs will continue to be settled. However, we intend to vigorously contest pending and future claims that are invalid, for which settlement is unable to be reached or that are in excess of the maximum claim amounts under the applicable MSAs.

In order to evaluate whether a claim is probable of a loss, we must obtain and evaluate certain information pertaining to each individual claim, including but not limited to the following items: the name and social security number of the plaintiff, evidence of an AMS implant, the date of implant, the date the claim was first asserted to AMS and medical records establishing the injury alleged. Without access to and review of at least this information, we are not in a position to determine a claim's validity or whether a loss is probable. Further, the timing and extent to which we obtain this information and our evaluation thereof, is often impacted by items outside of our control, including, without limitation, the normal cadence of the litigation process and the provision of claim information to us by plaintiff's counsel. We will continue to monitor the situation, and, if appropriate, we will make further adjustments to our product liability accrual based on new information. We intend to continue exploring all options as appropriate in our best interests, and depending on developments, there is a possibility that we will suffer adverse decisions or verdicts of substantial amounts, or that we will enter into additional monetary settlements. Any unfavorable outcomes as a result of such litigation or settlements with respect to any asserted or unasserted claims could have a material adverse effect on our business, financial condition, results of operations and cash flows.

During 2015, the Company sold the Men's Health and Prostate Health business to Boston Scientific Corporation and subsequently wound down the remaining Astora business during 2016, and therefore, the litigation expense and legal defense costs specifically attributable to the vaginal mesh cases has been included in Discontinued operations, net of tax in the Consolidated Statements of Operations for all periods presented. The Company is responsible for all known pending and estimated future claims related to vaginal mesh cases.

Contingent accruals are recorded with a corresponding charge to Litigation-related and other contingencies, net in the Consolidated Statements of Operations when the Company determines that a loss related to a litigation matter is both probable and reasonably estimable. Due to the fact that legal proceedings and other contingencies are inherently unpredictable, our assessments involve significant judgments regarding future events. As of the date of this report, we believe that the current product liability accrual includes all known claims for which liability is probable.

Legal fees and other expenses related to litigation are expensed as incurred and included in Selling, general and administrative expenses.

See Note 14. Commitments and Contingencies in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules" for further discussion of our product liability cases.

RESULTS OF OPERATIONS

We reported net loss attributable to Endo International plc in 2016 of $3,347.1 million or $15.03 per diluted share on total revenues of $4,010.3 million compared with net loss attributable to Endo International plc of $1,495.0 million or $7.59 per diluted share on total revenues of $3,268.7 million in 2015 and net loss attributable to Endo International plc of $721.3 million or $4.60 per diluted share on total revenues of $2,380.7 million in 2014.

Consolidated Results Review

Year Ended December 31, 2016 Compared to Year Ended December 31, 2015

Total Revenues. Total revenues in 2016 increased 23% to $4,010.3 million from $3,268.7 million in 2015. This revenue increase was primarily attributable to revenues related to our September 2015 acquisition of Par. The increase was partially offset by decreased revenues for certain products in our U.S. Branded Pharmaceuticals segment, driven mainly by decreased Voltaren® Gel, Lidoderm®, OPANA® ER and Frova® revenues related to generic competition. In addition, we experienced decreased revenues in our legacy U.S. Generic Pharmaceuticals business, which resulted from competitive pressure on commoditized generic products.

Gross margin, costs and expenses. The following table sets forth costs and expenses for the years ended December 31 (dollars in thousands):

	2016		2015	
	$	% of Revenue	$	% of Revenue
Cost of revenues	$ 2,634,973	66	$ 2,075,651	64
Selling, general and administrative	770,728	19	741,304	23
Research and development	183,372	5	102,197	3
Litigation-related and other contingencies, net	23,950	1	37,082	1
Asset impairment charges	3,781,165	94	1,140,709	35
Acquisition-related and integration items	87,601	2	105,250	3
Total costs and expenses*	$ 7,481,789	187	$ 4,202,193	129

* Percentages may not add due to rounding.

Cost of revenues and gross margin. Cost of revenues in 2016 increased 27% to $2,635.0 million from 2015. These increases were primarily attributable to increased costs related to our acquisition of Par, including intangible asset amortization, and increased charges related to excess inventory reserves of approximately $36 million. These inventory charges were primarily due to the underperformance of certain products and the planned discontinuance of several products as part of the 2016 U.S. Generic Pharmaceuticals restructuring initiative announced in May 2016. Gross margins for 2016 decreased to 34% from 36% in 2015. These decreases were primarily attributable to the mix of revenue being more heavily weighted toward lower margin generic pharmaceutical product sales as compared to the higher margin branded products, increased intangible asset amortization of $315.1 million for 2016 and the charges to increase excess inventory reserves mentioned above.

Selling, general and administrative expenses. Selling, general and administrative expenses in 2016 increased 4% to $770.7 million from 2015. This increase was primarily a result of incremental employee, facility and other selling, general and administrative expenses related to the acquisition of Par. In addition, we implemented several restructuring initiatives during 2016, including the 2016 U.S Generic Pharmaceuticals Restructuring and the 2016 U.S. Branded Pharmaceutical Restructuring, which resulted in charges of $17.0 million and $16.5 million, respectively. These increases were partially offset by a charge during the first quarter of 2015 related to the acceleration of Auxilium Pharmaceuticals, Inc. (Auxilium) employee equity awards at closing of $37.6 million, restructuring charges during 2015 of $26.7 million related to the Auxilium acquisition and restructuring charges during 2015 of $23.6 million related to the Par acquisition.

Research and development expenses. Research and development (R&D) expenses in 2016 increased 79% to $183.4 million from 2015. The following table presents the composition of our total R&D expense for the years ended December 31 (in thousands):

	Research and Development Expense (in thousands)	
	2016	2015
U.S. Generic Pharmaceuticals portfolio	$ 128,330	$ 58,418
U.S. Branded Pharmaceuticals portfolio	49,062	25,828
International Pharmaceuticals portfolio	3,348	9,624
Enterprise-wide R&D costs	2,632	8,327
Total R&D expense	$ 183,372	$ 102,197

Our primary U.S. Generic Pharmaceuticals R&D efforts are focused on high-barrier-to-entry generic products, including first-to-file or first-to-market opportunities that are difficult to formulate, difficult to manufacture or face complex legal and regulatory challenges. We believe products with these characteristics will face a lesser degree of competition and therefore provide longer product life cycles and higher profitability than commodity generic products. In 2016 and 2015, our direct R&D expense related to generics totaled $128.3 million and $58.4 million, respectively. The increase in expense is a result of the Par acquisition and additional investments in expanding our research and development and manufacturing capabilities.

The increase in U.S. Branded Pharmaceuticals expenses in 2016 was primarily attributable to costs incurred related to the development of XIAFLEX® for the treatment of cellulite, including Phase 2 clinical trials.

Litigation-related and other contingencies, net. Charges for Litigation-related and other contingencies, net in 2016 totaled $24.0 million compared to $37.1 million in 2015. Our legal proceedings and other contingent matters are described in more detail in Note 14. Commitments and Contingencies of the Consolidated Financial Statements of Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

Asset impairment charges. Asset impairment charges in 2016 totaled $3,781.2 million compared to $1,140.7 million in 2015. The following items were the significant drivers of impairment charges:

Goodwill

As part of our annual goodwill impairment test, we concluded that the carrying value of our U.S. Generics, Paladin, Somar and Litha reporting units exceeded their respective estimated fair values and recorded goodwill impairment charges of $2,342.5 million, $272.6 million, $33.0 million and $26.3 million, respectively. The impairments were a result of a combination of factors, including increased buying power from the continued consolidation of our generic business customer base, a significant change in the value derived from the level and frequency of anticipated pricing opportunities in the future and increased levels of competition, particularly in our U.S. Generics reporting unit, due to the entry of new low cost competitors and accelerated FDA ANDA approvals. Consequently, we lowered our projected revenue growth rates and profitability levels as part of our fourth quarter company-wide strategic forecasting process. These external dynamics were exacerbated by an increase in the risk factor included in the discount rate used to calculate the U.S. Generics discounted cash flows from the date of our last interim test. The increase in the discount rate was due to the implied control premium resulting from recent trading values of our stock. On a combined basis, these factors reduced the resulting estimated fair value of our reporting units.

Given the results of our intangible asset assessment during the third quarter of 2015 for STENDRA® and certain testosterone replacement therapy (TRT) products, we initiated an interim goodwill impairment analysis of our Urology, Endocrinology and Oncology (UEO) reporting unit as of September 30, 2015. As a result of this interim analysis, we determined that the net book value of our UEO reporting unit exceeded its estimated fair value. We prepared this analysis on a preliminary basis to estimate the amount of a provisional impairment charge as of September 30, 2015, and determined that an impairment was probable and reasonably estimable. We performed the preliminary fair value assessments taking into consideration a number of factors, based upon the latest available information, including the preliminary results of a hypothetical purchase price allocation. As a result of the preliminary analysis, during the three months ended September 30, 2015, we recorded a provisional pre-tax, non-cash impairment charge of $680.0 million in the Consolidated Statements of Operations, representing the difference between the estimated implied fair value of the UEO reporting unit's goodwill and its respective net book value. We completed our UEO goodwill impairment analysis during the fourth quarter of 2015 and reduced the provisional pre-tax, non-cash impairment charge by $6.5 million, for a net, pre-tax, non-cash impairment charge during the year ended December 31, 2015 of $673.5 million.

As part of the 2015 annual goodwill impairment test, we recorded a pre-tax, non-cash impairment charge of $85.8 million in the Consolidated Statements of Operations during the fourth quarter of 2015, representing the difference between the estimated implied fair value of the Paladin reporting unit's goodwill and its respective net book value, primarily due to the loss of exclusivity on certain products sold in Canada.

Intangible Assets

U.S. Generic Pharmaceuticals Segment

During the three months ended March 31, 2016 and June 30, 2016, we identified certain market conditions impacting the commercial potential of certain indefinite and definite-lived intangible assets in our U.S. Generic Pharmaceuticals segment. Accordingly, we tested these assets for impairment and determined that the carrying value of certain of these assets was no longer fully recoverable, resulting in pre-tax, non-cash asset impairment charges of $29.3 million and $40.0 million during the first and second quarters of 2016, respectively. In addition, during the first quarter of 2016, we recognized pre-tax, non-cash asset impairment charges of $100.3 million related to the 2016 U.S. Generic Pharmaceuticals restructuring initiative, which resulted from the discontinuation of certain commercial products and the abandonment of certain IPR&D projects. See Note 4. Restructuring in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules" for discussion of our material restructuring initiatives. During the fourth quarter of 2016, we recognized pre-tax, non-cash intangible asset impairment charges of $507.2 million in our U.S. Generic Pharmaceuticals business resulting from certain market conditions, including higher than expected erosion rates in the U.S. Generic Pharmaceuticals base business due to price erosion and increased competition, that impacted the commercial potential of definite and indefinite-lived intangible assets.

During the year ended December 31, 2015, we identified certain market conditions impacting the commercial potential of certain indefinite and definite-lived intangible assets in our U.S. Generic Pharmaceuticals segment. Accordingly, we tested these assets for impairment and determined that the carrying value of certain of these assets was no longer fully recoverable, resulting in pre-tax, non-cash asset impairment charges of $70.2 million, $72.4 million and $38.4 million, respectively, during the second, third and fourth quarters of 2015.

U.S. Branded Pharmaceuticals Segment

As a result of unfavorable formulary changes and generic competition for sumatriptan, we experienced a downturn in the performance of our Sumavel® DosePro® (Sumavel®) product, a needle-free delivery system for sumatriptan acquired from Zogenix, Inc. in 2014. As a result of this underperformance, we concluded during the third quarter of 2016 that an impairment assessment was required to evaluate the recoverability of Sumavel®. After performing this assessment, we recorded a pre-tax, non-cash impairment charge of $72.8 million during the three months ended September 30, 2016, representing a full impairment of the intangible asset. During the fourth quarter of 2016, we recognized pre-tax, non-cash intangible asset impairment charges of $37.6 million in our U.S. Branded Pharmaceuticals segment resulting primarily from the termination of our BELBUCA™ product and the return of this product to BDSI.

During the year ended December 31, 2015, a sustained downturn in the short-acting TRT market caused underperformance across several of our TRT products, including Testim® and Natesto™. In addition, we also experienced underperformance with respect to STENDRA®. As a result of this underperformance and a re-alignment of investment priorities towards higher growth and higher value assets such as XIAFLEX®, we concluded during the third quarter of 2015 that an impairment assessment was required to evaluate the recoverability of certain definite-lived intangible assets associated with these products. After performing this assessment, we recorded a pre-tax, non-cash impairment charge of approximately $152.0 million during the third quarter of 2015, representing a full impairment of our Natesto™ intangible asset and a partial impairment of our Testim® and STENDRA® intangible assets. As a result of providing written notice to VIVUS Inc. on December 30, 2015 that we were terminating the STENDRA® License Agreement effective June 30, 2016, we recorded an additional pre-tax, non-cash impairment charge of approximately $9.5 million, representing the remaining carrying amount of our STENDRA® intangible asset. Additionally, during the fourth quarter of 2015, we determined that the fair value of certain U.S. Branded Pharmaceuticals IPR&D assets were less than their respective carrying amounts, and we recorded a pre-tax, non-cash impairment charge of $5.5 million representing the full carrying amount of the assets.

International Pharmaceuticals Segment

During the three months ended September 30, 2016, we determined that we would not pursue commercialization of a product in certain international markets. Accordingly, we tested the definite-lived intangible asset associated with this product for impairment and determined that the carrying value was no longer fully recoverable, resulting in pre-tax, non-cash asset impairment charge of $16.2 million during the third quarter of 2016. During the fourth quarter of 2016, we recognized pre-tax, non-cash intangible asset impairment charges of $285.5 million in our International Pharmaceuticals segment resulting from certain market conditions impacting the commercial potential of definite and indefinite-lived intangible assets.

As part of our definite-lived intangible asset impairment review processes for 2015, we recorded pre-tax, non-cash impairment charges of approximately $14.6 million in our International Pharmaceuticals segment, representing the difference between the carrying amount of certain intangible assets and their estimated fair value.

Acquisition-related and integration items. Acquisition-related and integration items in 2016 decreased 17% to $87.6 million from 2015. The decrease during 2016 was primarily driven by lower acquisition-related and integration costs of $106.6 million associated with our Auxilium and Par acquisitions, which closed in 2015. This decrease was partially offset by $23.8 million of expense for 2016, compared to a benefit of $65.6 million for 2015, resulting from changes in the fair value of contingent consideration. The adjustments to contingent consideration were due to changes in market conditions impacting the commercial potential of the underlying products.

Interest expense, net. The components of Interest expense, net for the years ended December 31 are as follows (in thousands):

	2016	2015
Interest expense	$ 456,396	$ 378,901
Interest income	(3,717)	(5,687)
Interest expense, net	$ 452,679	$ 373,214

Interest expense in 2016 totaled $456.4 million compared to $378.9 million in 2015. This increase was primarily attributable to an increase in our average total outstanding indebtedness to $8.4 billion in 2016 from $6.6 billion in 2015. Our period-over-period average total outstanding indebtedness has increased due primarily to the financing of the Par acquisition.

Loss on extinguishment of debt. Loss on extinguishment of debt was zero in 2016 compared to $67.5 million in 2015. The 2015 charges were primarily related to the early redemption of our former 7.00% Senior Notes due 2019.

Other (income) expense, net. The components of Other (income) expense, net for the years ended December 31 are as follows (in thousands):

	2016	2015
Foreign currency loss (gain), net	$ 2,991	$ (23,058)
Equity (earnings) loss from unconsolidated subsidiaries, net	(1,190)	3,217
Other-than-temporary impairment of equity investment	—	18,869
Legal settlement	—	(12,500)
Costs associated with unused financing commitments	—	78,352
Other miscellaneous, net	(2,139)	(1,189)
Other (income) expense, net	$ (338)	$ 63,691

Foreign currency loss (gain), net results from the remeasurement of the our foreign currency denominated assets and liabilities. We incurred $78.4 million during 2015 related to unused commitment fees primarily associated with financing for the Par acquisition. In addition, during 2015, we recognized an other-than-temporary impairment of our Litha joint venture investment totaling $18.9 million, reflecting the excess carrying value of this investment over its estimated fair value.

Income tax benefit. In 2016, we recognized an income tax benefit of $700.1 million on $3,923.9 million of loss from continuing operations before income tax, compared to a benefit of $1,137.5 million on $1,437.9 million of loss from continuing operations before income tax in 2015. The effective income tax rate was 17.8% in benefit on the current period loss from continuing operations before income tax in 2016, compared to an effective income tax rate of 79.1% in benefit on loss from continuing operations before income tax in 2015. Our tax rate is affected by recurring items, such as tax rates in Non-U.S. jurisdictions as compared to the Notional U.S. federal statutory tax rate, and the relative amount of income earned in those various jurisdictions. It is also impacted by discrete items that may occur in any given year, but are not consistent from year to year. The following items had the most significant impact on the difference between the notional U.S. statutory federal income tax rate and our effective tax rate:

2016:

- $926.9 million tax expense or a 23.6% rate charge resulting from the non-deductible portion of impaired goodwill.

- $762.6 million tax expense or a 19.4% rate charge from recording net valuation allowances relating to the Company's operations.
- $636.1 million net tax benefit or a 16.2% rate benefit associated with the recognition of outside basis differences in certain subsidiaries.
- $301.7 million net tax benefit or a 7.7% rate benefit associated with our geographical mix of earnings. No provision has been made for Irish taxes, as the majority of our undistributed earnings are intended to be permanently reinvested outside of Ireland.

2015:

- $786.1 million net tax benefit or a 54.7% rate benefit associated with the recognition of outside basis differences in certain subsidiaries.
- $359.5 million net tax benefit or a 25.0% rate benefit associated with our geographical mix of earnings. No provision has been made for Irish taxes, as the majority of our undistributed foreign earnings are intended to be permanently reinvested outside of Ireland.
- $278.3 million tax expense or 19.4% rate charge resulting from the non-deductible portion of impaired goodwill.

For additional information on our income taxes, see Note 19. Income Taxes of the Consolidated Financial Statements of Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

Discontinued operations, net of tax. As a result of our decision to sell our AMS business and wind down our Astora business, together comprising the entirety of our former Devices segment, the operating results of this business are reported as Discontinued operations, net of tax in the Consolidated Statements of Operations for all periods presented. The results of our discontinued operations totaled $123.3 million of loss, net of tax, in 2016 compared to $1,194.9 million of loss, net of tax, in 2015.

The change during 2016 was mainly due to a decrease in charges relating to mesh litigation of $1,087.6 million, a decrease in asset impairment charges of $209.4 million and a reduction of income tax expense of $157.4 million derived from tax expense recorded as part of the divestiture of the Men's Health and Prostate Health businesses in the third quarter of 2015, offset partially by a full valuation allowance recorded on certain of our U.S. net deferred tax assets in 2016, a decrease in income from operations resulting from the sale of the Men's Health and Prostate Health components in the third quarter of 2015 and a gain on the sale of the Men's Health and Prostate Health components noted above of approximately $13.6 million during the third quarter of 2015.

2017 Outlook

We estimate that our 2017 total revenues will be between $3.45 billion and $3.60 billion. This estimate reflects an anticipated decline in our U.S. Generic Pharmaceuticals segment driven by a decline in the base business partially offset by growth in our Sterile Injectables and new launch revenues; a decline in our U.S. Branded Pharmaceuticals segment resulting from the annualization of the loss of exclusivity for Voltaren® Gel and Frova® and the continued decline in the legacy pain portfolio, partially offset by the growth of XIAFLEX® and our other Specialty business products; and the divestiture of the South African Litha Healthcare Group Limited and competitive pressures in our International Pharmaceuticals segment. The Company anticipates improved margins in 2017 driven by product rationalization in our U.S. Generic Pharmaceuticals segment and targeted cost reductions in selling, general and administrative expenses. We will continue to invest in XIAFLEX® and other core products to position the Company for long-term success. There can be no assurance that we will achieve these results.

Year Ended December 31, 2015 Compared to Year Ended December 31, 2014

Revenues. Revenues in 2015 increased 37% to $3,268.7 million from 2014. This revenue increase was primarily attributable to growth in our U.S. Generic Pharmaceuticals segment and revenues related to our February 2014 acquisition of Paladin, July 2014 acquisition of Grupo Farmacéutico Somar, Sociedad Anónima Promotora de Inversión de Capital Variable (Somar), January 2015 acquisition of Auxilium and September 2015 acquisition of Par. The increases were partially offset by decreased revenues from our U.S. Branded Pharmaceuticals segment, driven mainly by decreased Lidoderm® and OPANA® ER revenues related to generic competition. A discussion of revenues by reportable segment is included below under the caption "Business Segment Results Review."

Gross margin, costs and expenses. The following table sets forth costs and expenses for the years ended December 31 (dollars in thousands):

	2015		2014	
	$	% of Revenue	$	% of Revenue
Cost of revenues	$ 2,075,651	64	$ 1,231,497	52
Selling, general and administrative	741,304	23	567,986	24
Research and development	102,197	3	112,708	5
Litigation-related and other contingencies, net	37,082	1	42,084	2
Asset impairment charges	1,140,709	35	22,542	1
Acquisition-related and integration items	105,250	3	77,384	3
Total costs and expenses*	$ 4,202,193	129	$ 2,054,201	86

* Percentages may not add due to rounding.

Cost of revenues and gross margin. Cost of revenues in 2015 increased 69% to $2,075.7 million from 2014. This increase was primarily attributable to increased costs related to our acquisitions of Paladin, Sumavel®, Somar, DAVA Pharmaceuticals, Inc. (DAVA), Auxilium and Par. Gross margins in 2015 decreased to 36% from 48% in 2014. These decreases were primarily attributable to growth in lower margin generic pharmaceutical product sales, increased intangible asset amortization of $342.6 million, increased inventory step-up amortization as a result of recent acquisitions of $166.9 million and a decline in higher margin branded pharmaceutical product sales due to generic competition on certain products.

Selling, general and administrative expenses. Selling, general and administrative expenses in 2015 increased 31% to $741.3 million from 2014. The increase was primarily a result of the acquisitions of Paladin, Sumavel®, Somar, DAVA, Auxilium and Par, including a charge during the first quarter of 2015 related to the acceleration of Auxilium employee equity awards at closing of $37.6 million and restructuring charges related to the Auxilium and Par acquisitions. These increases were partially offset by a $54.3 million charge in 2014 for the reimbursement of directors' and certain employee's excise tax liabilities pursuant to Section 4985 of the Internal Revenue Code, which were approved by our shareholders on February 26, 2014. These liabilities resulted from the shareholder gain from the merger between Endo and Paladin.

Research and development expenses. Research and development (R&D) expenses in 2015 decreased 9% to $102.2 million from 2014. The following table presents the composition of our total R&D expense for the years ended December 31 (in thousands):

	Research and Development Expense (in thousands)	
	2015	2014
U.S. Generic Pharmaceuticals portfolio	$ 58,418	$ 32,060
U.S. Branded Pharmaceuticals portfolio	25,828	64,764
International Pharmaceuticals portfolio	9,624	6,238
Enterprise-wide R&D costs	8,327	9,646
Total R&D expense	$ 102,197	$ 112,708

Our primary U.S. Generic Pharmaceuticals R&D efforts are focused on high-barrier-to-entry generic products, including first-to-file or first-to-market opportunities that are difficult to formulate, difficult to manufacture or face complex legal and regulatory challenges. We believe products with these characteristics will face a lesser degree of competition and therefore provide longer product life cycles and higher profitability than commodity generic products. In 2015 and 2014, our direct R&D expense related to generics totaled $58.4 million and $32.1 million, respectively. The increase in expense is a result of the Par acquisition and additional investments in expanding our research and development and manufacturing capabilities.

The decrease in U.S. Branded Pharmaceuticals expenses in 2015 was primarily attributable to $30.0 million in milestone charges incurred during 2014 related to the achievement of certain BELBUCA™ clinical milestones and decreases in other branded pharmaceutical product expenses. We undertook initiatives in 2014 to optimize commercial spend and refocus our research and development efforts on progressing late-stage pipeline and maximizing value of marketed products. On June 2, 2014, we completed the sale of our branded pharmaceutical drug discovery platform to Asana BioSciences, LLC (Asana), an independent member of the Amneal Alliance of Companies. The sale included multiple early-stage drug discovery and development candidates in a variety of therapeutic areas, including oncology, pain and inflammation, among others. In addition, on November 4, 2014 we sold most of the assets and intellectual property of our second generation implantable drug technology to Braeburn Pharmaceuticals (Braeburn), excluding the existing implant platform used for our two marketed histrelin-containing products, Vantas® and Supprelin®.

As part of the Auxilium acquisition, we acquired Auxilium's licensed right to cover certain XIAFLEX® indications. As a result, we have incurred related early-stage and middle-stage development expenses for these XIAFLEX® indications.

Litigation-related and other contingencies, net. Charges for Litigation-related and other contingencies, net in 2015 totaled $37.1 million, compared to $42.1 million in 2014. These amounts mainly relate to fluctuations in charges associated with certain litigation matters. Our legal proceedings and other contingent matters are described in more detail in Note 14. Commitments and Contingencies of the Consolidated Financial Statements of Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

Asset impairment charges. Asset impairment charges in 2015 totaled $1,140.7 million, compared to $22.5 million in 2014. This increase primarily relates to 2015 pre-tax, non-cash impairment charges of $673.5 million and $85.8 million, for the former UEO and Paladin reporting units, respectively, representing the difference between the estimated implied fair value of the former UEO and Paladin reporting units' goodwill and their respective net book value. Goodwill in our former UEO reporting unit, prior to the impairments, was approximately $915 million with approximately $815 million stemming from the Paladin and Auxilium acquisitions. We assigned the goodwill arising from the Paladin acquisition to multiple reporting units across each of our reportable segments. This assignment was based on the relative incremental benefit expected to be realized by each impacted reporting unit. The level of goodwill created by the Paladin and Auxilium acquisitions was impacted by the increase in our share price from the acquisition announcement date to the date the acquisition closed. During 2015, our revised expectations of certain TRT products and other elements of the UEO business due to current and expected market conditions coupled with the new investment opportunities resulting from the U.S. Food and Drug Administration (FDA) approval of BELBUCA™ and other strategic priorities resulted in a shift in investment strategy. As a result of these factors, there was a decline in the fair value of the former UEO reporting unit. Goodwill in our Paladin reporting unit, prior to the impairments, was approximately $520 million. In addition to the goodwill impairment charges, during 2015 we also recorded pre-tax, non-cash impairment charges of $370.6 million on certain intangible assets primarily from our U.S. Branded Pharmaceuticals and U.S. Generic Pharmaceuticals segments.

The amounts incurred during 2014 related primarily to a charge of $12.3 million to fully impair a license intangible asset related to OPANA® ER as well as charges of $4.3 million to completely write off certain miscellaneous property, plant and equipment. These impairment charges were recorded because we determined the carrying amounts of these assets were no longer recoverable.

Acquisition-related and integration items. Acquisition-related and integration items in 2015 totaled $105.3 million in expense, compared to $77.4 million in expense in 2014. During 2015, we recorded $65.6 million of income, net, resulting from the change in the fair value of certain contingent consideration. The change in contingent consideration is due to certain market conditions impacting the commercial potential of the underlying products. This income was partially offset by an increase in overall acquisition-related and integration costs associated with our acquisition of Auxilium, which closed during the first quarter of 2015, and acquisition of Par, which closed during the third quarter of 2015.

Interest expense, net. The components of Interest expense, net for the years ended December 31 are as follows (in thousands):

	2015	2014
Interest expense	$ 378,901	$ 231,163
Interest income	(5,687)	(4,049)
Interest expense, net	$ 373,214	$ 227,114

Interest expense in 2015 totaled $378.9 million compared to $231.2 million in 2014. This increase was primarily attributable to an increase in our average total indebtedness to $6.6 billion in 2015 from $4.3 billion in 2014.

Loss on extinguishment of debt. Loss on extinguishment of debt totaled $67.5 million in 2015 compared to $31.8 million in 2014. These amounts relate to our various debt-related transactions in 2015 and 2014.

Other expense (income), net. The components of Other expense (income), net for the years ended December 31 are as follows (in thousands):

	2015	2014
Net gain on sale of certain early-stage drug discovery and development assets	$ —	$ (5,200)
Foreign currency gain, net	(23,058)	(10,054)
Equity loss (earnings) from unconsolidated subsidiaries, net	3,217	(8,325)
Other-than-temporary impairment of equity investment	18,869	—
Legal settlement	(12,500)	—
Costs associated with unused financing commitments	78,352	—
Other miscellaneous, net	(1,189)	(8,745)
Other expense (income), net	$ 63,691	$ (32,324)

Fluctuations in foreign currency rates are primarily driven by our increased global presence subsequent to the acquisitions of Paladin and Somar as well as foreign currency rate movements. In 2015, we recognized an other-than-temporary impairment of our Litha joint venture investment totaling $18.9 million, reflecting the excess carrying value of this investment over its estimated fair value. In addition, we incurred $78.4 million during 2015 related to unused commitment fees primarily associated with financing for the Par acquisition.

Income tax (benefit) expense. In 2015, we recognized an income tax benefit of $1,137.5 million on $1,437.9 million of loss from continuing operations before income tax, compared to $38.3 million of tax expense on $99.9 million of income from continuing operations before income tax in 2014. The effective income tax rate was 79.1% in benefit on the current period loss from continuing operations before income tax in 2015, compared to an effective income tax rate of 38.3% in expense on income from continuing operations before income tax in 2014. Our tax rate is affected by recurring items, such as tax rates in Non-U.S. jurisdictions as compared to the Notional U.S. federal statutory tax rate, and the relative amount of income earned in those various jurisdictions. It is also impacted by discrete items that may occur in any given year, but are not consistent from year to year. The following items had the most significant impact on the difference between the notional U.S. statutory federal income tax rate and our effective tax rate:

2015:

- $786.1 million net tax benefit or a 54.7% rate benefit associated with the recognition of outside basis differences in certain subsidiaries.
- $359.5 million net tax benefit or a 25.0% rate benefit associated with our geographical mix of earnings. No provision has been made for Irish taxes, as the majority of our undistributed foreign earnings are intended to be permanently reinvested outside of Ireland.
- $278.3 million tax expense or 19.4% rate charge resulting from the non-deductible portion of impaired goodwill.

2014:

- $52.5 million net tax benefit or a 52.3% rate benefit associated with our geographical mix of earnings. No provision has been made for Irish taxes, as the majority of our undistributed foreign earnings are intended to be permanently reinvested outside of Ireland.
- $16.3 million tax expense or a 16.4% rate charge associated with the PPACA.
- $15.4 million tax expense or a 15.4% rate charge associated with the excise tax incurred in connection with our business combination with Paladin.
- $10.1 million tax expense or a 10.1% rate charge associated with U.S. state income taxes net of the U.S. federal tax benefit.
- $5.9 million tax expense or a 5.9% rate charge associated with the non-deductible portion of our acquisition costs pertaining to our business combination with Paladin and our acquisition of Somar.
- $5.5 million tax expense or a 5.4% rate charge associated with the loss of our prior year domestic manufacturing deduction benefit pursuant to our 2014 U.S. net operating loss carryback claim.

For additional information on our income taxes, see Note 19. Income Taxes of the Consolidated Financial Statements of Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

Discontinued operations, net of tax. As a result of our decision to sell our AMS business, which comprises the entirety of our former Devices segment, as well as our February 2014 sale of our HealthTronics business, the operating results of these businesses are reported as Discontinued operations, net of tax in the Consolidated Statements of Operations for all periods presented. The results of our discontinued operations totaled $1,194.9 million of loss, net of tax, in 2015 compared to $779.8 million of loss, net of tax, in 2014.

The fluctuation in Discontinued operations in 2015 compared to 2014 was mainly related to a decrease in income tax benefit of $282.7 million, an increase in impairment charges of $230.7 million and a decrease in income from operations due to the sale of the Men’s Health and Prostate Health components. The decrease in income tax expense benefit relates to the tax impact of the underlying differences between book and tax basis of the underlying assets sold as part of the transactions in 2014 and 2015. These fluctuations were partially offset by a decrease in expense associated with mesh-related product liability claimants of $165.6 million and a gain on the sale of the Men’s Health and Prostate Health components of approximately $13.6 million in 2015.

For additional information on discontinued operations, see Note 3. Discontinued Operations and Held for Sale of the Consolidated Financial Statements of Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

Business Segment Results Review

The three reportable business segments in which we operate are: (1) U.S. Generic Pharmaceuticals, (2) U.S. Branded Pharmaceuticals and (3) International Pharmaceuticals. These segments reflect the level at which the chief operating decision maker regularly reviews financial information to assess performance and to make decisions about resources to be allocated. Each segment derives revenue from the sales or licensing of its respective products and is discussed in more detail below.

We evaluate segment performance based on each segment's adjusted income from continuing operations before income tax, a financial measure not determined in accordance with U.S. GAAP, which we define as loss from continuing operations before income tax and before certain upfront and milestone payments to partners; acquisition-related and integration items, including transaction costs, earn-out payments or adjustments, changes in the fair value of contingent consideration and bridge financing costs; cost reduction and integration-related initiatives such as separation benefits, retention payments, other exit costs and certain costs associated with integrating an acquired company's operations; excess costs that will be eliminated pursuant to integration plans; asset impairment charges; amortization of intangible assets; inventory step-up recorded as part of our acquisitions; certain non-cash interest expense; litigation-related and other contingent matters and gains or losses from early termination of debt; foreign currency gains or losses on intercompany financing arrangements; and certain other items.

Certain of the corporate general and administrative expenses incurred by us are not attributable to any specific segment. Accordingly, these costs are not allocated to any of our segments and are included in the results below as Corporate unallocated. Our consolidated adjusted income from continuing operations before income tax is equal to the combined results of each of its segments less these unallocated corporate costs.

We refer to adjusted income from continuing operations before income tax in making operating decisions because we believe it provides meaningful supplemental information regarding our operational performance. For instance, we believe that this measure facilitates its internal comparisons to our historical operating results and comparisons to competitors' results. We believe this measure is useful to investors in allowing for greater transparency related to supplemental information used in our financial and operational decision-making. In addition, we have historically reported similar financial measures to our investors and believe that the inclusion of comparative numbers provides consistency in our current financial reporting. Further, we believe that adjusted income from continuing operations before income tax may be useful to investors as we are aware that certain of our significant shareholders utilize adjusted income from continuing operations before income tax to evaluate our financial performance. Finally, adjusted income from continuing operations before income tax is utilized in the calculation of adjusted diluted income per share, which is used by the Compensation Committee of Endo's board of directors in assessing the performance and compensation of substantially all of our employees, including our executive officers.

There are limitations to using financial measures such as adjusted income from continuing operations before income tax. Other companies in our industry may define adjusted income from continuing operations before income tax differently than we do. As a result, it may be difficult to use adjusted income from continuing operations before income tax or similarly named adjusted financial measures that other companies may use to compare the performance of those companies to our performance. Because of these limitations, adjusted income from continuing operations before income tax is not intended to represent cash flow from operations as defined by U.S. GAAP and should not be used as alternatives to net income as indicators of operating performance or to cash flows as measures of liquidity. We compensate for these limitations by providing reconciliations of our total segment adjusted income from continuing operations before income tax to our consolidated loss from continuing operations before income tax, which is determined in accordance with U.S. GAAP and included in our Consolidated Statements of Operations.

Year Ended December 31, 2016 Compared to Year Ended December 31, 2015

Revenues. The following table displays our revenue by reportable segment for the years ended December 31 (dollars in thousands):

	2016		2015	
	$	% of Revenue	$	% of Revenue
Net revenues to external customers:				
U.S. Generic Pharmaceuticals	$ 2,564,613	64	$ 1,672,416	51
U.S. Branded Pharmaceuticals	1,166,294	29	1,284,607	39
International Pharmaceuticals (1)	279,367	7	311,695	10
Total net revenues to external customers	$ 4,010,274	100	$ 3,268,718	100

(1) Revenues generated by our International Pharmaceuticals segment are primarily attributable to Canada, Latin America and South Africa.

U.S. Generic Pharmaceuticals. The following table displays the significant components of our U.S. Generic Pharmaceuticals revenues to external customers for the years ended December 31 (in thousands):

	2016	2015
U.S. Generic Pharmaceuticals		
U.S. Generics Base (1)	$ 1,230,097	$ 1,083,809
Sterile Injectables	530,805	107,592
New Launches and Alternative Dosages (2)	803,711	481,015
Total U.S. Generic Pharmaceuticals	$ 2,564,613	$ 1,672,416

(1) U.S. Generics Base includes solid oral-extended release, solid oral-immediate release and pain/controlled substances products.

(2) New Launches and Alternative Dosages includes liquids, semi-solids, patches, powders, ophthalmics, sprays and new product launches. Products are included in New Launches during the calendar year of launch and the subsequent calendar year such that the period of time any product will be considered a New Launch will range from thirteen to twenty-four months. New Launches contributed $474.5 million of revenues in 2016 compared to $71.3 million of revenues in 2015. The table below presents the most significant revenue producing New Launch Products from the respective most recent two calendar launches years:

Year of Launch	Year Ended December 31, 2016	Year Ended December 31, 2015
2015	- KCL Powder - Ethacrynate Sodium - Dutas/Tams Caps - Propranolol - Pramipexole DHCI	- Ethacrynate Sodium - Pramipexole DHCI - Propranolol - Tolcapone Tabs - Dutas/Tams Caps
2016	- Ezetimibe Tabs - Quetiapine ER - Diclofenac Gel - Melphalan Injection - Darifenacin HBr ER Tabs	N/A - No impact on 2015

Net sales of U.S. Generics Base in 2016 increased 13% to $1,230.1 million from 2015. This increase was attributable to approximately $629.4 million in revenue during 2016 as a result of the acquisition of Par, partially offset by a decrease as a result of competitive pressure on commoditized generic products.

Net sales of Sterile Injectables in 2016 increased 393% to $530.8 million from 2015. This increase was attributable to a full year of revenues from the acquisition of Par, which was acquired in September 2015. Sterile Injectables include net sales of Vasostrict®, the first and only vasopressin injection with a New Drug Application (NDA) approved by the FDA, which was $343.5 million in 2016. In June 2016, the U.S. Patent and Trademark Office issued Endo a new Vasostrict® patent, which has an expiration date of January 30, 2035. Any Abbreviated New Drug Application (ANDA) applicant seeking FDA approval for a generic version of Vasostrict® prior to expiration of the patent has to notify Par of its ANDA filing before it can obtain FDA approval. Any ANDA filer whose application was not received prior to submission of the new patent information would be subject to a 30-month stay of marketing approval by the FDA upon the initiation of Hatch-Waxman litigation by Par against the ANDA filer.

Net sales of New Launches and Alternative Dosages in 2016 increased 67% to $803.7 million from 2015. This increase was primarily attributable to launch products from the Par acquisition, partially offset by increased competitive pressure on patches, ophthalmics and other alternative doses. During the fourth quarter of 2016, we launched Ezetimibe tablets (generic version of Zetia®), which is a first-to-file product with an associated brand value of approximately $2.6 billion, and Quetiapine ER tablets (generic version of Seroquel® XR), which is a first-to-file product with an associated brand value of approximately $1.3 billion. Total combined net sales for these two products in 2016 were approximately $290 million.

U.S. Branded Pharmaceuticals. The following table displays the significant components of our U.S. Branded Pharmaceuticals revenues to external customers for the years ended December 31 (in thousands):

	2016	2015
Pain Management:		
Lidoderm®	$ 87,577	$ 125,269
OPANA® ER	158,938	175,772
Percocet®	139,211	135,822
Voltaren® Gel	100,642	207,161
	$ 486,368	$ 644,024
Specialty Pharmaceuticals:		
Supprelin® LA	$ 78,648	$ 70,099
XIAFLEX®	189,689	158,115
	$ 268,337	$ 228,214
Branded Other Revenues (1)	411,589	412,369
Total U.S. Branded Pharmaceuticals (2)	$ 1,166,294	$ 1,284,607

(1) Products included within Branded Other Revenues in the table above include, but are not limited to, TESTOPEL®, Testim®, Fortesta® Gel, including authorized generic, and Nascobal® Nasal Spray.

(2) Individual products presented above represent the top two performing products in each product category and/or any product having revenues in excess of $100.0 million during the years ended December 31, 2016 or December 31, 2015.

Pain Management

Net sales of Lidoderm® in 2016 decreased 30% to $87.6 million from 2015. This decrease was attributable to volume decreases resulting from generic competition partially offset by an increase in price. Actavis plc (Actavis) (now Teva Pharmaceutical Industries (Teva)), launched a generic form of Lidoderm® in September 2013, our U.S. Generic Pharmaceuticals segment launched its authorized generic of Lidoderm® in May 2014, and Mylan, Inc. (Mylan) launched a generic form of Lidoderm® in August 2015. To the extent additional competitors are able to launch generic versions of Lidoderm®, our revenues could decline further.

Net sales of OPANA® ER in 2016 decreased 10% to $158.9 million from 2015. Net sales continue to be impacted by competing generic versions of the INTAC® technology formulation of OPANA® ER, which launched beginning in early 2013. To the extent additional competitors are able to launch generic versions of the INTAC® technology formulation of OPANA® ER, our revenues could decline further. The FDA has announced an upcoming Advisory Committee for Opana® ER and oxymorphone for March 2017. The Advisory Committee will likely discuss pre- and post-marketing data about the abuse of OPANA® ER, and the overall risk-benefit of this product. The Advisory Committee will also discuss abuse of generic oxymorphone ER and oxymorphone immediate-release (IR) products.

Net sales of Percocet® in 2016 increased 2% to $139.2 million from 2015. This increase was attributable to price increases, partially offset by volume decreases.

Net sales of Voltaren® Gel in 2016 decreased 51% to $100.6 million from 2015. This decrease was primarily attributable to the March 2016 launch of Amneal Pharmaceuticals LLC's generic equivalent of Voltaren® Gel and our launch of the authorized generic of Voltaren® Gel in July 2016. Subject to FDA approval, it is possible one or more additional competing generic products could potentially enter the market, which could negatively impact future sales of Voltaren® Gel.

Specialty Pharmaceuticals

Net sales of Supprelin® LA in 2016 increased 12% to $78.6 million from 2015. This revenue increase was primarily attributable to volume and price increases.

Net sales of XIAFLEX® in 2016 increased 20% to $189.7 million from 2015. The revenue increase was primarily attributable to volume increases in addition to a full twelve months of product revenues for the year ended December 31, 2016.

Branded Other

Net sales of Branded Other products in 2016 decreased less than 1% to $411.6 million from 2015. The decrease was primarily attributable to decreased Frova® revenues related to generic competition, partially offset by the acquisitions of Auxilium, which we acquired on January 29, 2015 and other branded products acquired with Par.

International Pharmaceuticals. Revenues from our International Pharmaceuticals segment in 2016 decreased 10% to $279.4 million from 2015. The decrease was primarily attributable to decreases in Litha revenues as a result of its divestiture of non-core assets during the first quarter of 2016 in addition to unfavorable fluctuations in foreign currency rates, partially offset by increased revenues from the acquisition of certain Aspen Holdings assets in the fourth quarter of 2015 (the Aspen Asset Acquisition).

Adjusted income from continuing operations before income tax. The following table displays our Adjusted income from continuing operations before income tax by reportable segment for the years ended December 31 (in thousands):

	2016	2015
Adjusted income from continuing operations before income tax:		
U.S. Generic Pharmaceuticals	$ 1,079,479	$ 741,767
U.S. Branded Pharmaceuticals	553,806	694,440
International Pharmaceuticals	84,337	81,789
Total segment adjusted income from continuing operations before income tax	$ 1,717,622	$ 1,517,996

U.S. Generic Pharmaceuticals. Adjusted income from continuing operations before income tax in 2016 increased 46% to $1,079.5 million from 2015. In 2016, revenues and gross margins increased primarily due to the Par acquisition on September 25, 2015. These increases were partially offset by a decrease resulting from competitive pressure on commoditized generic products and increased charges related to excess inventory reserves at our U.S. Generic Pharmaceuticals segment due to the underperformance of certain products.

U.S. Branded Pharmaceuticals. Adjusted income from continuing operations before income tax in 2016 decreased 20% to $553.8 million from 2015. This decrease is primarily attributable to decreased Voltaren® Gel, Lidoderm®, OPANA® ER and Frova® revenues related to generic competition.

International Pharmaceuticals. Adjusted income from continuing operations before income tax in 2016 increased 3% to $84.3 million from 2015. This increase was primarily attributable to an increase in gross margin resulting from the divestiture of certain lower margin products in the first quarter of 2016, increased revenues from the Aspen Asset Acquisition and decreased operating expenses, partially offset by unfavorable fluctuations in foreign currency rates.

The table below provides reconciliations of our consolidated loss from continuing operations before income tax, which is determined in accordance with U.S. GAAP, to our total segment adjusted income from continuing operations before income tax for the years ended December 31, (in thousands):

	2016	2015
Total consolidated loss from continuing operations before income tax	$ (3,923,856)	$ (1,437,864)
Interest expense, net	452,679	373,214
Corporate unallocated costs (1)	189,043	171,242
Amortization of intangible assets	876,451	561,302
Inventory step-up and certain manufacturing costs that will be eliminated pursuant to integration plans	125,699	249,464
Upfront and milestone payments to partners	8,330	16,155
Separation benefits and other cost reduction initiatives (2)	107,491	125,407
Impact of Voltaren® Gel generic competition	(7,750)	—
Acceleration of Auxilium employee equity awards at closing	—	37,603
Certain litigation-related charges, net (3)	23,950	37,082
Asset impairment charges (4)	3,781,165	1,140,709
Acquisition-related and integration items (5)	87,601	105,250
Loss on extinguishment of debt	—	67,484
Costs associated with unused financing commitments	—	78,352
Other-than-temporary impairment of equity investment	—	18,869
Foreign currency impact related to the remeasurement of intercompany debt instruments	366	(25,121)
Other, net	(3,547)	(1,152)
Total segment adjusted income from continuing operations before income tax	$ 1,717,622	$ 1,517,996

(1) Corporate unallocated costs include certain corporate overhead costs, such as headcount and facility expenses, and certain other income and expenses.

(2) Separation benefits and other cost reduction initiatives include employee separation costs of $57.9 million and $60.2 million in 2016 and 2015, respectively. Other amounts in 2016 primarily consist of charges to increase excess inventory reserves of $24.5 million and other restructuring costs of $25.1 million, comprised primarily of contract termination fees and building costs. Amounts in 2015 primarily consist of $41.2 million of inventory write-offs and $13.3 million of building costs, including a $7.9 million charge recorded upon the cease use date of our Auxilium subsidiary's former corporate headquarters. These amounts were primarily recorded as Cost of revenues and Selling, general and administrative expense in our Consolidated Statements of Operations. See Note 4. Restructuring in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules" for discussion of our material restructuring initiatives.

(3) These amounts include charges for Litigation-related and other contingencies, net as further described in Note 14. Commitments and Contingencies in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

(4) Asset impairment charges primarily relate to charges to write down goodwill and intangible assets as further described in Note 10. Goodwill and Other Intangibles in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

(5) Acquisition-related and integration items include costs directly associated with previous acquisitions of $63.8 million and $170.9 million in 2016 and 2015, respectively. In addition, during the year ended December 31, 2016, there was a charge for changes in fair value of contingent consideration of $23.8 million. During the year ended December 31, 2015, acquisition-related and integration costs are net of a benefit due to changes in the fair value of contingent consideration of $65.6 million.

Year Ended December 31, 2015 Compared to Year Ended December 31, 2014

Revenues. The following table displays our revenue by reportable segment for the years ended December 31 (dollars in thousands):

	2015		2014	
	$	% of Revenue	$	% of Revenue
Net revenues to external customers:				
U.S. Generic Pharmaceuticals	$ 1,672,416	51	$ 1,140,821	48
U.S. Branded Pharmaceuticals	1,284,607	39	969,437	41
International Pharmaceuticals (1)	311,695	10	270,425	11
Total net revenues to external customers	$ 3,268,718	100	$ 2,380,683	100

(1) Revenues generated by our International Pharmaceuticals segment are primarily attributable to Canada, Latin America and South Africa.

U.S. Generic Pharmaceuticals. Net sales of our generic products in 2015 increased 47% to $1,672.4 million from 2014. This increase was primarily attributable to an additional $382.7 million of revenue due to the acquisition of Par. In addition, the Generics business benefited from new product launches, an increase in demand for generic pain products and certain sales incentives offered to customers in the fourth quarter of 2015 in anticipation of additional competitive entrants expected in early 2016. This benefit was partially offset by increased pricing pressures due to increased competition across pain and commoditized products within the legacy Qualitest business.

U.S. Branded Pharmaceuticals. The following table displays the significant components of our U.S. Branded Pharmaceuticals revenues to external customers for the years ended December 31 (in thousands):

	2015	2014
Pain Management:		
Lidoderm®	$ 125,269	$ 157,491
OPANA® ER	175,772	197,789
Percocet®	135,822	122,355
Voltaren® Gel	207,161	179,816
	$ 644,024	$ 657,451
Specialty Pharmaceuticals:		
Supprelin® LA	$ 70,099	$ 66,710
XIAFLEX®	158,115	—
	$ 228,214	$ 66,710
Urology:		
Fortesta® Gel, including Authorized Generic	$ 52,827	$ 58,661
Testim®, including Authorized Generic	40,763	—
	$ 93,590	$ 58,661
Branded Other Revenues (1)	318,779	135,287
Actavis Royalty	—	51,328
Total U.S. Branded Pharmaceuticals (2)	$ 1,284,607	$ 969,437

(1) Products included within Branded Other Revenues in the table above include, but are not limited to, TESTOPEL® and Nascobal® Nasal Spray.
(2) Individual products presented above represent the top two performing products in each product category and/or any product having revenues in excess of $100.0 million during the years ended December 31, 2015 or December 31, 2014.

Pain Management

Net sales of Lidoderm® in 2015 decreased 20% to $125.3 million from 2014. Net sales were negatively impacted by the September 16, 2013 launch of Actavis's lidocaine patch 5%, a generic form of Lidoderm®, the May 2014 launch by our U.S. Generic Pharmaceuticals business of its authorized generic of Lidoderm® and the August 2015 generic launch by Mylan.

Net sales of OPANA® ER in 2015 decreased 11% to $175.8 million from 2014 due primarily to competing generic versions of the INTAC® technology formulation of OPANA® ER, which launched beginning in early 2013.

Net sales of Percocet® in 2015 increased 11% to $135.8 million from 2014. This increase was attributable to price increases.

Net sales of Voltaren® Gel in 2015 increased 15% to $207.2 million from 2014. This increase was primarily attributable to volume increases resulting from increased promotional activities and price increases.

Specialty Pharmaceuticals

Net sales of Supprelin® LA in 2015 increased 5% to $70.1 million from 2014. This revenue increase was primarily attributable to price increases.

Net sales of XIAFLEX® for the treatment of Peyronie's Disease and Dupuytren's Contracture for the period from January 29, 2015 to December 31, 2015 were $158.1 million and were the result of the acquisition of Auxilium.

Urology

Net sales of Fortesta® Gel, including Authorized Generic in 2015, decreased 10% to $52.8 million from 2014. This decrease was primarily attributable to reduced volume of branded Fortesta® Gel sales, partially offset by the launch of the authorized generic in September 2014.

Net sales of Testim®, including the Authorized Generic, for the period from January 29, 2015 to December 31, 2015 were $40.8 million and resulted from the acquisition of Auxilium.

Branded Other

Net sales of Branded Other products in 2015 increased 136% to $318.8 million from 2014. This increase was primarily attributable to the acquisitions of Sumavel®, Auxilium and Par, which we acquired in May 2014, January 2015 and September 2015, respectively, and the launch of Aveed® in March 2014.

Actavis Royalty

Actavis royalty revenue decreased to zero in 2015 from 2014. This decrease was related to a decrease in royalty income from Actavis, based on Actavis' gross profit generated on sales of its generic version of Lidoderm®, which commenced in September 2013 and ceased in May 2014, upon our launch of the Lidoderm® authorized generic.

International Pharmaceuticals. Revenues from our International Pharmaceuticals segment in 2015 increased 15% to $311.7 million from 2014 mainly as a result of a full year of revenues from Somar, which we acquired in July 2014.

Adjusted income from continuing operations before income tax. The following table displays our Adjusted income from continuing operations before income tax by reportable segment for the years ended December 31 (in thousands):

	2015	2014
Adjusted income from continuing operations before income tax:		
U.S. Generic Pharmaceuticals	$ 741,767	$ 464,029
U.S. Branded Pharmaceuticals	694,440	529,507
International Pharmaceuticals	81,789	80,683
Total segment adjusted income from continuing operations before income tax	$ 1,517,996	$ 1,074,219

U.S. Generic Pharmaceuticals. Adjusted income from continuing operations before income tax in 2015 increased 60% to $741.8 million from 2014. In 2015, revenues and gross margins increased primarily due to the DAVA and Par acquisitions and the resulting incremental adjusted income from continuing operations before income tax. In addition, adjusted income from continuing operations before income tax increased as a result of new product launches and an increase in demand for generic pain products.

U.S. Branded Pharmaceuticals. Adjusted income from continuing operations before income tax in 2015 increased 31% to $694.4 million from 2014. This increase was primarily attributable to the acquisition of Auxilium and the resulting incremental adjusted income from continuing operations before income tax.

International Pharmaceuticals. Adjusted income from continuing operations before income tax in 2015 increased 1% to $81.8 million from 2014. This increase was primarily attributable to the acquisition of Somar and the resulting incremental adjusted income from continuing operations before income tax, partially offset by increased operating expenses associated with the expansion of our global operations.

The table below provides reconciliations of our consolidated loss from continuing operations before income tax, which is determined in accordance with U.S. GAAP, to our total segment adjusted income from continuing operations before income tax for the years ended December 31, (in thousands):

	2015	2014
Total consolidated loss from continuing operations before income tax	$ (1,437,864)	$ 99,875
Interest expense, net	373,214	227,114
Corporate unallocated costs (1)	171,242	128,303
Amortization of intangible assets	561,302	218,712
Inventory step-up and certain manufacturing costs that will be eliminated pursuant to integration plans	249,464	65,582
Upfront and milestone payments to partners	16,155	51,774
Separation benefits and other cost reduction initiatives (2)	125,407	25,760
Acceleration of Auxilium employee equity awards at closing	37,603	—
Certain litigation-related charges, net (3)	37,082	42,084
Asset impairment charges (4)	1,140,709	22,542
Acquisition-related and integration items (5)	105,250	77,384
Loss on extinguishment of debt	67,484	31,817
Costs associated with unused financing commitments	78,352	—
Other-than-temporary impairment of equity investment	18,869	—
Foreign currency impact related to the remeasurement of intercompany debt instruments	(25,121)	(13,153)
Excise Tax	—	54,300
Other, net	(1,152)	42,125
Total segment adjusted income from continuing operations before income tax	$ 1,517,996	$ 1,074,219

(1) Corporate unallocated costs include certain corporate overhead costs, such as headcount and facility expenses and certain other income and expenses.

(2) Separation benefits and other cost reduction initiatives include employee separation costs of $60.2 million and $14.4 million in 2015 and 2014, respectively. Amounts in 2015 primarily consist of $41.2 million of inventory write-offs and $13.3 million of building costs, including a $7.9 million charge recorded upon the cease use date of our Auxilium subsidiary's former corporate headquarters. Amounts in 2014 primarily consisted of employee separation costs and changes in estimates related to certain cost reduction initiative accruals. These amounts were primarily recorded as Cost of revenues and Selling, general and administrative expense in our Consolidated Statements of Operations. See Note 4. Restructuring in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules" for discussion of our material restructuring initiatives.

(3) These amounts include charges for Litigation-related and other contingencies, net as further described in Note 14. Commitments and Contingencies in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

(4) Asset impairment charges primarily relate to charges to write down goodwill and intangible assets as further described in Note 10. Goodwill and Other Intangibles in the Consolidated Financial Statements, included in Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

(5) Acquisition-related and integration items include costs directly associated with previous acquisitions of $170.9 million and $77.4 million in 2015 and 2014, respectively. During the year ended December 31, 2015, acquisition-related and integration costs are net of a benefit due to changes in the fair value of contingent consideration of $65.6 million.

LIQUIDITY AND CAPITAL RESOURCES

Our principal source of liquidity is cash generated from operations. Our principal liquidity requirements are primarily for working capital for operations, licenses, milestone payments, capital expenditures, contingent liabilities, and debt service payments. The Company's working capital deficit was $45.3 million at December 31, 2016 compared to a working capital deficit of $21.8 million at December 31, 2015. Working capital at December 31, 2016 includes restricted cash and cash equivalents of $276.0 million held in Qualified Settlement Funds (QSFs) for mesh product liability settlement agreements, which is expected to be paid to qualified claimants within the next twelve months. Working capital at December 31, 2015 included restricted cash and cash equivalents of $579.0 million held in QSFs for mesh product liability settlement agreements.

We have historically had broad access to financial markets that provide liquidity. Cash and cash equivalents, which primarily consisted of bank deposits, time deposits and money market accounts, totaled $517.3 million at December 31, 2016 compared to $272.3 million at December 31, 2015.

We expect cash generated from operations together with our cash, cash equivalents and the revolving credit facilities to be sufficient to cover cash needs for working capital and general corporate purposes, certain contingent liabilities, payment of contractual obligations, principal and interest payments on our indebtedness, capital expenditures, ordinary share repurchases and any regulatory and/or sales milestones that may become due over the next year. However, on a longer term basis, we may not be able to accurately predict the effect of certain developments on the rate of sales growth, such as the degree of market acceptance, patent protection and exclusivity of our products, the impact of competition, the effectiveness of our sales and marketing efforts and the outcome of our current efforts to develop, receive approval for and successfully launch our product candidates. Additionally, we may not be successful in implementing, or may face unexpected changes or expenses in connection with our strategic direction, including the potential for opportunistic corporate development transactions. Any of the above could adversely affect our future cash flows. We may need to obtain additional funding for future transactions, to repay our outstanding indebtedness, or for our future operational needs, and we cannot be certain that funding will be available on terms acceptable to us, or at all. Any issuances of equity securities or convertible securities could have a dilutive effect on the ownership interest of our current shareholders and may adversely impact net income per share in future periods. An acquisition may be accretive or dilutive and, by its nature, involves numerous risks and uncertainties. As a result of any acquisition efforts, if any, we are likely to experience significant charges to earnings for merger and related expenses (whether or not the acquisitions are consummated) that may include transaction costs, closure costs or costs of restructuring activities.

We consider the undistributed earnings from the majority of our subsidiaries as of December 31, 2016 to be indefinitely reinvested outside of Ireland and, accordingly, neither income tax nor withholding taxes have been provided thereon. As of December 31, 2016, indefinitely reinvested earnings were approximately $157.3 million. We have historically repatriated funds on a tax-free basis to our parent company for stock repurchases and to our Irish and Luxembourg financing companies to repay debt. Accordingly, we do not anticipate incurring tax in deploying funds to satisfy liquidity needs arising in the ordinary course of our business.

Borrowings. At December 31, 2016, the Company's indebtedness includes a credit agreement with combined outstanding principal borrowings of $3,713.9 million and additional availability of approximately $997.4 million under the revolving credit facilities.

The credit agreement contains affirmative and negative covenants that the Company believes to be usual and customary for a senior secured credit facility. The negative covenants include, among other things, limitations on capital expenditures, asset sales, mergers and acquisitions, indebtedness, liens, dividends, investments and transactions with the Company's affiliates. As of December 31, 2016, we were in compliance with all such covenants. In addition, on an annual basis commencing with the year ended December 31, 2016, the Company is required to perform a calculation of excess cash flow (as defined in the Amended Credit Agreement), which may result in an accelerated payment of the principal amount. The excess cash flow calculation for the year ended December 31, 2016 did not result in an excess payment.

At December 31, 2016, the Company's indebtedness includes senior notes with aggregate principal amounts totaling $4.7 billion. These notes mature between 2022 and 2025, subject to earlier repurchase or redemption in accordance with the terms of the respective indentures. Interest rates on these notes range from 5.375% to 7.25%. These notes are senior unsecured obligations of the Company's subsidiaries and are issued or guaranteed on a senior unsecured basis, as applicable, by all of our significant subsidiaries (other than Astora, Somar and Litha) and certain of our other subsidiaries, except for the 7.25% Senior Notes due 2022, which are issued by Endo Health Solutions Inc. and guaranteed on a senior unsecured basis by the guarantors named in the Fifth Supplemental Indenture relating to such notes (see Exhibit 4.4 to this Annual Report on Form 10-K).

The indentures governing our various senior notes contain affirmative and negative covenants that the Company believes to be usual and customary for senior unsecured indentures. The negative covenants, among other things, restrict the Company's ability and the ability of its restricted subsidiaries to incur certain additional indebtedness and issue preferred stock, make restricted payments, sell certain assets, agree to any restrictions on the ability of restricted subsidiaries to make payments to us, create certain liens, merge, consolidate, or sell substantially all of the Company's assets, or enter into certain transactions with affiliates. As of December 31, 2016, we were in compliance with all covenants.

Credit ratings. The Company's corporate credit ratings assigned by Moody's Investors Service and Standard & Poor's are B1 with a negative outlook and B+ with a negative outlook, respectively.

Working capital. The components of our working capital and our liquidity at December 31, 2016 and 2015 are below (dollars in thousands):

	December 31, 2016	December 31, 2015
Total current assets	$ 2,589,459	$ 3,452,537
Less: total current liabilities	(2,634,745)	(3,474,312)
Working capital	$ (45,286)	$ (21,775)
Current ratio	-1.0:1	-1.0:1

Net working capital decreased by approximately $24 million from December 31, 2015 to December 31, 2016. Since December 31, 2015, our current assets have decreased by $863 million. Changes in current assets impacting working capital were largely driven by a $197 million decrease in inventories resulting from continued amortization of inventory step-up related to our recent business acquisitions and excess inventory reserves recorded during the year ended December 31, 2016 and a $304 million net differential between cash distributions made from the QSFs to mesh-related product liability claimants and cash distributions into the QSFs. The remaining changes in current assets did not have a significant impact on working capital. Since December 31, 2015, our current liabilities have decreased by $840 million. Changes in current liabilities impacting working capital were driven largely by a $591 million decrease in the current portion of our legal settlement accrual as a result of cash distributions made from the QSFs of $1.1 billion during 2016, partially offset by $549 million of our long-term legal settlement accrual shifting into short-term between 2015 and 2016. In addition, accounts payable and accrued liabilities decreased by approximately $56 million, primarily associated with decreased gross to net reserves in our U.S. Branded Pharmaceuticals business. The remaining changes in current liabilities did not have a significant impact on working capital.

The following table summarizes our Consolidated Statements of Cash Flows for the years ended December 31 (in thousands):

	2016	2015	2014
Net cash flow provided by (used in):			
Operating activities	$ 524,439	$ 62,026	$ 337,776
Investing activities	125,861	(6,244,770)	(771,853)
Financing activities	(393,982)	6,055,467	302,857
Effect of foreign exchange rate	328	(7,068)	(4,037)
Movement in cash held for sale	$ (11,744)	$ 997	$ 14,356
Net increase in cash and cash equivalents	$ 244,902	$ (133,348)	$ (120,901)

Net cash provided by operating activities. Net cash provided by operating activities was $524.4 million in 2016 compared to $62.0 million in 2015 and $337.8 million in 2014.

Net cash provided by operating activities represents the cash receipts and cash disbursements from all of our activities other than investing activities and financing activities. Changes in cash from operating activities reflect, among other things, the timing of cash collections from customers, payments to suppliers, managed care organizations, government agencies, collaborative partners and employees, as well as tax payments and refunds in the ordinary course of business.

The $462.4 million increase in Net cash provided by operating activities in 2016 compared to 2015 was primarily the result of $760.0 million U.S. federal income tax refunds received during 2016, offset partially by the timing of cash collections and cash payments related to our operations. The $275.8 million decrease in Net cash provided by operating activities in 2015 compared to 2014 was primarily the result of the timing of cash collections and cash payments related to our operations and cash provided from the operations of our acquisitions.

The following table summarizes certain of our significant pre-tax cash outlays and cash receipts impacting Net cash provided by operating activities for the years ended December 31 (in thousands):

	2016	2015	2014
Payments for mesh-related product liability and other litigation matters	$ 1,195,932	$ 699,347	$ 333,763
Redemption fees paid in connection with debt retirements	—	31,496	—
Unused commitment fees	—	78,352	—
Separation and restructuring payments	97,869	73,655	34,652
Excise tax reimbursement	—	—	54,300
Transaction costs and certain integration charges paid in connection with acquisitions	68,249	191,195	80,639
U.S. Federal tax refunds received	(759,950)	(162,821)	(116,818)
Total	$ 602,100	$ 911,224	$ 386,536

Net cash provided by (used in) investing activities. Net cash provided by investing activities was $125.9 million in 2016 compared to $6,244.8 million used in investing activities in 2015 and $771.9 million used in investing activities in 2014.

This $6,370.6 million fluctuation in cash provided by investing activities in 2016 compared to 2015 relates primarily to the cash used for acquisitions in 2015 of $7,650.4 million. In addition, $1,134.7 million of cash was released from the QSFs for mesh settlements during the year ended December 31, 2016, which was $485.3 million more than cash released from the QSFs during the prior year. These net increases were partially offset by a decrease of $1,584.7 million in proceeds from sale of business, primarily relating to the sale of the Men's Health and Prostate Health components of the AMS business during the third quarter of 2015, and $831.1 million paid into QSFs for mesh settlements during the year ended December 31, 2016, which was $88.0 million more than cash paid into the QSFs during the prior year. Additionally, during the year ended December 31, 2015, $40 million of cash was released from the escrow account associated with the acquisition of the remaining outstanding share capital of Litha. Cash payments into QSFs and escrow accounts result in a cash outflow for investing activities. Cash releases from QSFs and escrow accounts result in a cash inflow for investing activities and a corresponding outflow for cash provided by (used in) operating activities. Payments related to our QSFs are further described in Note 14. Commitments and Contingencies of the Consolidated Financial Statements of Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

The $5,472.9 million increase in cash used in investing activities in 2015 compared to 2014 relates primarily to an increase in cash used for acquisitions in 2015 related primarily to the acquisitions of Par, Auxilium and the Aspen Asset Acquisition of $6,563.9 million. We also paid $743.1 million into the QSFs for mesh settlements during the year ended December 31, 2015, resulting in a cash outflow for investing activities. In addition, cash previously held in escrow of $770.0 million was released upon the close of the Paladin transaction in February 2014, which resulted in a prior year corresponding cash inflow for investing activities. In addition, there was an increase in cash used for patent acquisition costs and license fees of $39.0 million. These decreases were partially offset by an increase of $1,534.3 million in proceeds from sale of business, primarily relating to the sale of the Men's Health and Prostate Health components of the AMS business, $649.4 million of cash released from the QSFs for mesh settlements, and approximately $40 million of cash released from the escrow account associated with the acquisition of the remaining outstanding share capital of Litha during the year ended December 31, 2015. In addition, we paid $585.2 million into the QSFs for mesh settlements during the year ended December 31, 2014, resulting in a prior year cash outflow for investing activities. Payments related to our QSFs are further described in Note 14. Commitments and Contingencies of the Consolidated Financial Statements of Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

Net cash (used in) provided by financing activities. Net cash used in financing activities was $394.0 million in 2016 compared to $6,055.5 million provided by financing activities in 2015 and $302.9 million provided by financing activities in 2014.

Items contributing to the $6,449.4 million fluctuation in cash used in financing activities in 2016 compared to 2015 include a decrease resulting from proceeds from the issuance of notes of $2,835.0 million in 2015, a decrease due to proceeds from the issuance of term loans of $2,800.0 million in 2015, a decrease resulting from the issuance of ordinary shares of $2,300.0 million in 2015, a decrease in proceeds from draw of revolving debt of $145.0 million**,** and an increase in repayments of revolving debt of $305.0 million, partially offset by a decrease in principal payments on notes of $899.9 million, a decrease in principal payments on term loans of $369.8 million, a decrease due to the repurchase of convertible notes of $247.8 million in 2015, and a decrease resulting from payments for deferred financing fees of $124.6 million in 2015.

Items contributing to the $5,752.6 million increase in cash provided by financing activities in 2015 compared to 2014 include an increase due to the issuance of ordinary shares of $2,300.0 million to finance the Par acquisition in 2015, an increase due to proceeds from the issuance of notes of $2,085.0 million in 2015, an increase due to proceeds from the issuance of term loans of $1,275.0 million in 2015, a decrease in principal payments on term loan indebtedness of $956.8 million, a decrease in the repurchase of convertible senior subordinated notes of $340.0 million, a decrease in payments to settle ordinary share warrants of $284.5 million and net proceeds from draws of revolving debt of $225.0 million, partially offset by an increase in principal payments on notes of $899.9 million, a decrease in proceeds from the settlement of the hedge on convertible senior subordinated notes of $356.3 million, an increase in repurchase of ordinary shares of $250.1 million, an increase in payments related to the issuance of ordinary shares of $62.2 million and an increase in cash buy-outs of noncontrolling interests of $37.9 million related to the acquisition of the remaining outstanding share capital of Litha.

Research and development. Over the past few years, we have incurred significant expenditures related to conducting clinical studies to develop new products and expand the value of our existing products beyond what is currently approved in their respective labels.

As part of the Auxilium acquisition, the Company acquired Auxilium's licensed right to cover certain XIAFLEX® indications. As a result, the Company has incurred related early-stage and middle-stage development expenses for these XIAFLEX® indications.

We expect to incur research and development expenditures relative to the development and advancement of our current generic and branded product pipeline and any additional product candidates we may add via license, acquisition or organically. There can be no assurance the results of any ongoing or future nonclinical or clinical trials related to these projects will be successful, that additional trials will not be required, that any drug, product or indication under development will receive regulatory approval in a timely manner or at all, or that such drug, product or indication could be successfully manufactured in accordance with current good manufacturing practices for the geographies where the products are approved, successfully marketed in a timely manner, or at all, or that we will have sufficient funds to develop or commercialize any of our products.

Manufacturing, supply and other service agreements. Certain of our subsidiaries contract with various third party manufacturers, suppliers and service providers to provide raw materials used in our subsidiaries' products and semi-finished and finished goods, as well as certain packaging, labeling, customer service support, warehouse and distribution services. These contracts include agreements with Novartis Consumer Health, Inc., Novartis AG and Sandoz, Inc. (collectively, Novartis), Teikoku Seiyaku Co., Ltd., Noramco, Inc., Grünenthal GmbH and Jubilant HollisterStier Laboratories LLC. If, for any reason, our subsidiaries are unable to obtain sufficient quantities of any of the finished goods or raw materials or components required for their products needed to conduct their business, it could have an adverse effect on our business, financial condition, results of operations and cash flows.

License and collaboration agreements. Our subsidiaries have agreed to certain contingent payments in certain license, collaboration and other agreements. Payments under these agreements generally become due and payable only upon the achievement of certain developmental, regulatory, commercial and/or other milestones. Due to the fact that it is uncertain if and when these milestones will be achieved, such contingencies have not been recorded in our Consolidated Balance Sheets. In addition, under certain arrangements, we or our subsidiaries may have to make royalty payments based on a percentage of future sales of the products in the event regulatory approval for marketing is obtained. From a business perspective, we view these payments favorably as they signify that the products are moving successfully through the development phase toward commercialization.

Acquisitions. Going forward, our primary focus will be on organic growth. However, we may consider and, as appropriate, make acquisitions of other businesses, products, product rights or technologies. Our cash reserves and other liquid assets may be inadequate to consummate such acquisitions and it may be necessary for us to issue ordinary shares or raise substantial additional funds in the future to complete future transactions. In addition, as a result of any acquisition efforts, we are likely to experience significant charges to earnings for merger and related expenses (whether or not our efforts are successful) that may include transaction costs, closure costs or costs of restructuring activities.

Legal proceedings. We are subject to various patent, product liability, government investigations and other legal proceedings in the ordinary course of business. Accruals are recorded when we determine that a loss related to a litigation matter is both probable and reasonably estimable. Due to the fact that legal proceedings and other contingencies are inherently unpredictable, our assessments involve significant judgments regarding future events. For additional discussion of legal proceedings, see Note 14. Commitments and Contingencies of the Consolidated Financial Statements of Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

Contractual Obligations. The following table lists our enforceable and legally binding noncancelable obligations as of December 31, 2016.

	Payment Due by Period (in thousands)						
Contractual Obligations	**Total**	**2017**	**2018**	**2019**	**2020**	**2021**	**Thereafter**
Long-term debt obligations (1)	$ 8,398,930	$ 131,125	$ 179,250	$ 715,500	$ 28,000	$ 28,000	$ 7,317,055
Interest expense (2)	2,474,242	416,817	411,748	387,972	383,442	382,075	492,188
Capital lease obligations (3)	62,308	8,591	7,269	7,368	7,360	7,542	24,178
Operating lease obligations (4)	91,588	17,531	16,295	14,158	11,923	9,386	22,295
Purchase obligations (5)	71,794	55,274	7,143	2,717	2,440	1,313	2,907
Mesh-related product liability settlements (6)	674,078	674,078	—	—	—	—	—
Other obligations and commitments (7)	10,500	3,500	3,500	500	500	500	2,000
Total (8)	$ 11,783,440	$ 1,306,916	$ 625,205	$ 1,128,215	$ 433,665	$ 428,816	$ 7,860,623

(1) Includes minimum cash payments related to principal associated with our indebtedness. A discussion of such indebtedness is included above under the caption “Borrowings”.

(2) These amounts represent future cash interest payments related to our existing debt obligations based on fixed and variable interest rates specified in the associated debt agreements. Payments related to variable debt are based on applicable rates at December 31, 2016 plus the specified margin in the associated debt agreements for each period presented.

(3) Includes minimum cash payments related to certain fixed assets, primarily related to technology. In addition, includes minimum cash payments related to the direct financing arrangement for our U.S. headquarters in Malvern, Pennsylvania. We have agreed to sublease a portion of the Malvern facility, equal to approximately 90,000 square feet, through December 31, 2024. We will receive approximately $20.0 million in minimum rental payments over the remaining term of the sublease, which is not included in the table above.

(4) Includes minimum cash payments related to our leased automobiles, machinery and equipment and facilities not included in capital lease obligations. Under the terms of our leases for our former headquarters in Chadds Ford, Pennsylvania, the former Auxilium headquarters in Chesterbrook, Pennsylvania, and the former AMS headquarters in Eden Prairie, Minnesota, we are required to continue to pay all future minimum lease payments to the landlord. We have agreed to sublease the entire Chadds Ford facility through March 31, 2018 and the entire Eden Prairie facility through December 21, 2020. We will receive approximately $2.8 million in minimum rental payments over the remaining terms of the subleases, which is not included in the table above.

(5) Purchase obligations are enforceable and legally binding obligations for purchases of goods and services including minimum inventory contracts.

(6) The amount included above represents contractual payments for mesh-related product liability settlements pursuant to existing Master Settlement Agreements (MSAs) and reflect the earliest date that a settlement payment could be due and the largest amount that could be due on that date. These matters are described in more detail in Note 14. Commitments and Contingencies of the Consolidated Financial Statements of Part IV, Item 15 of this report "Exhibits, Financial Statement Schedules".

(7) Other obligations and commitments include agreements to purchase third-party assets, products and services and other minimum royalty obligations.

(8) Total does not include contractual obligations already included in current liabilities on our Consolidated Balance Sheets, except for current portion of long-term debt, short-term capital lease obligations, short-term royalty obligations and the current portion of the mesh-related product liability or certain purchase obligations, which are discussed below.

For purposes of the table above, obligations for the purchase of goods or services are included only for significant noncancelable purchase orders at least one year in length that are enforceable, legally binding and specify all significant terms, including fixed or minimum quantities to be purchased, fixed, minimum or variable price provisions and the timing of the obligation. Our purchase orders are based on our current manufacturing needs and are typically fulfilled by our suppliers within a relatively short period. At December 31, 2016, we have open purchase orders that represent authorizations to purchase rather than binding agreements that are not included in the table above. In addition, we do not include collaboration agreements and potential payments under those agreements or potential payments related to contingent consideration.

As of December 31, 2016, our liability for unrecognized tax benefits amounted to $443.6 million (including interest and penalties). Due to the nature and timing of the ultimate outcome of these uncertain tax positions, we cannot make a reliable estimate of the amount and period of related future payments. Therefore, our liability has been excluded from the above contractual obligations table.

Fluctuations. Our quarterly results have fluctuated in the past and may continue to fluctuate. These fluctuations may be due to the timing of new product launches, purchasing patterns of our customers, market acceptance of our products, the impact of competitive products and pricing, asset impairment charges, litigation related charges, restructuring costs, including separation benefits, business combination transaction costs, upfront, milestone and certain other payments made or accrued pursuant to licensing agreements and changes in the fair value of financial instruments and contingent assets and liabilities recorded as part of a business combination. Further, a substantial portion of our total revenues are through three wholesale drug distributors who in turn supply our products to pharmacies, hospitals and physicians. Accordingly, we are potentially subject to a concentration of credit risk with respect to our trade receivables.

Growth opportunities. We continue to evaluate growth opportunities including investments, licensing arrangements, acquisitions of product rights or technologies and businesses, and strategic alliances and promotional arrangements which could require significant capital resources. We continue to focus our business development activities on further diversifying our revenue base through product licensing and company acquisitions, as well as other opportunities to enhance shareholder value. Through execution of our business strategy we focus on developing new products both internally and with contract and collaborative partners; expanding our product lines by acquiring new products and technologies, increasing revenues and earnings through sales and marketing programs for our innovative product offerings and effectively using our resources; and providing additional resources to support our businesses.

Non-U.S. operations. Fluctuations in foreign currency rates resulted in a net loss of $3.0 million in 2016. This compares to a net gain of $23.1 million in 2015 and a net gain of $10.1 million in 2014.

Inflation. We do not believe that inflation had a material adverse effect on our financial statements for the periods presented.

Off-balance sheet arrangements. We have no off-balance sheet arrangements as defined in Item 303(a)(4) of Regulation S-K.

Item 7A. ***Quantitative and Qualitative Disclosures About Market Risk***

Market risk is the potential loss arising from adverse changes in the financial markets, including interest rates and foreign currency exchange rates.

Interest Rate Risk

Our exposure to interest rate risk relates primarily to our variable rate indebtedness associated with the term loan portion and revolving credit facilities portion of our credit agreement. To the extent we utilize amounts under our term loans and revolving credit facilities, we would be exposed to additional interest rate risk. At December 31, 2016, our term loans include principal amount of floating-rate debt of $3.7 billion. We had no principal amounts of floating-rate debt outstanding on our revolving credit facilities as of December 31, 2016. Borrowings under our revolving credit facilities and our Term Loan A facility bear interest at a rate equal to an applicable margin plus London Interbank Offered Rate (LIBOR). In addition, borrowings under our Term Loan B facility bear interest at a rate equal to an applicable margin plus LIBOR, subject to a LIBOR floor of 0.75%. A hypothetical 1% increase in LIBOR over the 0.75% floor would result in $37.1 million in incremental annual interest expense.

As of December 31, 2016 and 2015, we had no other assets or liabilities with significant interest rate sensitivity.

Investment Risk

At December 31, 2016 and 2015, we had immaterial investments in available-for-sale securities, primarily associated with equity securities of publicly traded companies. Any decline in value below our original investments will be evaluated to determine if the decline in value is considered temporary or other-than-temporary. An other-than-temporary decline in fair value would be included as a charge to earnings.

Foreign Currency Exchange Risk

We operate and transact business in various foreign countries and are therefore subject to risks associated with foreign currency exchange rate fluctuations. The Company manages this foreign currency risk, in part, through operational means including managing foreign currency revenues in relation to same currency costs as well as managing foreign currency assets in relation to same currency liabilities. The Company is also exposed to the potential earnings effects from intercompany foreign currency assets and liabilities that arise from normal trade receivables and payables and other intercompany loans. These subsidiaries' financial statements are remeasured into their respective functional currencies using current or historical exchange rates. Such remeasurement adjustments could have an adverse effect on the Company's results of operations.

All assets and liabilities of our international subsidiaries, which maintain their financial statements in local currency, are translated to U.S. dollars at period-end exchange rates. Translation adjustments arising from the use of differing exchange rates are included in accumulated other comprehensive income in shareholders' equity. Gains and losses on foreign currency transactions and short term inter-company receivables from foreign subsidiaries are included in Other (income) expense, net.

Fluctuations in foreign currency rates resulted in a net loss of $3.0 million in 2016. This compares to a net gain of $23.1 million in 2015 and a net gain of $10.1 million in 2014.

Based on the Company's significant foreign currency denominated intercompany loans existing at December 31, 2016, we estimate that a 10% appreciation or depreciation in the underlying currencies of our foreign currency denominated intercompany loans, relative to the U.S. Dollar, would result in approximately $7.0 million in incremental foreign currency gains or losses, respectively.

Inflation

We do not believe that inflation has had a significant impact on our revenues or operations.

Item 8. ***Financial Statements and Supplementary Data***

The information required by this item is contained in the financial statements set forth in Item 15. under the caption "Consolidated Financial Statements" as part of this Annual Report on Form 10-K.

Item 9. ***Changes In and Disagreements With Accountants on Accounting and Financial Disclosure***

Not applicable.

Item 9A. ***Controls and Procedures***

(a) Evaluation of Disclosure Controls and Procedures

The Company's management, with the participation of the Company's Chief Executive Officer and Principal Financial Officer, has evaluated the effectiveness of the Company's disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934, as of December 31, 2016. Based on that evaluation, the Company's Chief Executive Officer and Principal Financial Officer concluded that the Company's disclosure controls and procedures were effective as of December 31, 2016.

(b) Management's Report on Internal Control over Financial Reporting

The report of management of the Company regarding internal control over financial reporting is set forth in Item 15. of this Annual Report on Form 10-K under the caption "Management's Report on Internal Control Over Financial Reporting" and incorporated herein by reference.

(c) Attestation Report of Independent Registered Public Accounting Firm

The attestation report of the Company's independent registered public accounting firm regarding internal control over financial reporting is set forth in Item 15. of this Annual Report on Form 10-K under the caption "Reports of Independent Registered Public Accounting Firm" and incorporated herein by reference.

(d) Changes in Internal Control over Financial Reporting

There have been no changes in the Company's internal control over financial reporting during the fiscal quarter ended December 31, 2016 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. ***Other Information***

On February 27, 2017, the Company's subsidiaries, Endo Luxembourg Finance Company I S.à r.l., Endo Luxembourg Finance Company II S.à r.l. and Endo Ventures Limited (collectively, the Endo Parties), entered into a Sale Agreement (the Sale Agreement) with Acino Pharma Limited (Acino) to sell all of the securities of Litha Healthcare Group Proprietary Limited, including its issued ordinary shares and intercompany notes, and certain other Sub-Sahara Africa related assets, including license rights.

Under the terms of the Sale Agreement, Acino will pay an aggregate purchase price of $100 million subject to certain cash and working capital adjustments as described in the Sale Agreement. If, and to the extent that, as at the closing date, certain events as more fully described in the Sale Agreement have not occurred, then a portion of the aggregate purchase price will be withheld by Acino and/or paid into escrow with a third party escrow agent who will hold such amount until the occurrence of certain trigger events as more fully described in the Sale Agreement.

The Sale Agreement contains certain customary representations and warranties and certain customary covenants, including, but not limited to, covenants not to compete and not to solicit. The Sale Agreement also provides that the Endo Parties will indemnify Acino for losses arising from certain breaches of the Sale Agreement and for certain other matters as more fully described in the Sale Agreement.

The transaction is expected to close in the second quarter of 2017, pending customary regulatory approvals and satisfaction of other customary closing conditions. The parties have also agreed to enter into related ancillary agreements, including a restructuring agreement, a transition services agreement and an escrow agreement.

The forgoing description of the Sale Agreement does not purport to be complete and is qualified in its entirety by reference to the Sale Agreement itself. A copy of the Sale Agreement will be filed as an exhibit to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2017, expected to be filed no later than May 10, 2017.

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance***

Directors

The information concerning our directors required under this Item is incorporated herein by reference from our proxy statement, which will be filed with the Securities and Exchange Commission, relating to our 2017 Annual General Meeting (2017 Proxy Statement).

Executive Officers

For information concerning Endo's executive officers, see Part 1, Item 1 of this report "Business" under the caption "Executive Officers of the Registrant" and our 2017 Proxy Statement.

Code of Ethics

The information concerning our Code of Conduct is incorporated herein by reference from our 2017 Proxy Statement and can be viewed on our website, the internet address for which is www.endo.com.

Audit Committee

The information concerning our Audit Committee is incorporated herein by reference from our 2017 Proxy Statement.

Audit Committee Financial Experts

The information concerning our Audit Committee Financial Experts is incorporated herein by reference from our 2017 Proxy Statement.

Item 11. ***Executive Compensation***

The information required under this Item is incorporated herein by reference from our 2017 Proxy Statement.

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

Equity Compensation Plan Information. The following table sets forth aggregate information for the fiscal year ended December 31, 2016 regarding the Company's compensation plans, under which equity securities of Endo may be issued to employees and directors.

	Column A	Column B	Column C
Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights (1)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in Column A)
Equity compensation plans approved by security holders	6,179,931	$ 41.70	6,882,341
Equity compensation plans not approved by security holders	—	—	—
Total	6,179,931	$ 41.70	6,882,341

(1) Excludes shares of restricted stock units and performance share units outstanding.

The other information required under this Item is incorporated herein by reference from our 2017 Proxy Statement.

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

The information required under this Item is incorporated herein by reference from our 2017 Proxy Statement.

Item 14. ***Principal Accounting Fees and Services***

Information about the fees for 2016 and 2015 for professional services rendered by our independent registered public accounting firm is incorporated herein by reference from our 2017 Proxy Statement. Our Audit Committee's policy on pre-approval of audit and permissible non-audit services of our independent registered public accounting firm is incorporated by reference from our 2017 Proxy Statement.

The information required under this Item is incorporated herein by reference from our 2017 Proxy Statement.

PART IV

Item 15. ***Exhibits, Financial Statement Schedules***

(a) Documents filed as part of this Annual Report on Form 10-K:

1. Consolidated Financial Statements:

2. Consolidated Financial Statement Schedules:

SCHEDULE I—CONDENSED FINANCAL INFORMATION OF THE REGISTRANT
ENDO INTERNATIONAL PLC
CONDENSED BALANCE SHEETS (Parent Company Only)
DECEMBER 31, 2016 AND 2015
(In thousands)

	December 31, 2016	December 31, 2015
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 1,576	$ 1,535
Accounts receivable	—	139
Accounts receivable from subsidiaries	33,979	29,197
Prepaid expenses and other current assets	1,065	1,139
Total current assets	$ 36,620	$ 32,010
INVESTMENT IN SUBSIDIARIES	2,721,656	6,000,170
TOTAL ASSETS	$ 2,758,276	$ 6,032,180
LIABILITIES AND EQUITY		
CURRENT LIABILITIES:		
Accounts payable and accrued expenses	2,703	2,094
Payables to subsidiaries	29,266	37,338
Total current liabilities	$ 31,969	$ 39,432
PAYABLES TO SUBSIDIARIES	24,718	24,718
EQUITY:		
Euro deferred shares	42	43
Ordinary shares	22	22
Other equity	2,701,525	5,967,965
Total equity	$ 2,701,589	$ 5,968,030
TOTAL LIABILITIES AND EQUITY	$ 2,758,276	$ 6,032,180

See Notes to Condensed Financial Information.

ENDO INTERNATIONAL PLC
CONDENSED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME (Parent Company Only)
YEARS ENDED DECEMBER 31, 2016, 2015 AND 2014
(In thousands)

	2016	2015	2014
COSTS AND EXPENSES:			
Selling, general and administrative	$ 40,139	$ 31,922	$ 18,618
Acquisition-related and integration items	1,060	1,247	3,407
OPERATING LOSS	$ (41,199)	$ (33,169)	$ (22,025)
OTHER EXPENSE, NET	8	127	31
LOSS BEFORE INCOME TAXES	$ (41,207)	$ (33,296)	$ (22,056)
EQUITY IN NET LOSS OF SUBSIDIARIES	(3,305,859)	(1,461,746)	(699,263)
NET LOSS	$ (3,347,066)	$ (1,495,042)	$ (721,319)
OTHER COMPREHENSIVE INCOME (LOSS)	30,771	(256,213)	(119,173)
COMPREHENSIVE LOSS	$ (3,316,295)	$ (1,751,255)	$ (840,492)

See Notes to Condensed Financial Information.

ENDO INTERNATIONAL PLC
CONDENSED STATEMENTS OF CASH FLOWS (Parent Company Only)
YEARS ENDED DECEMBER 31, 2016, 2015 AND 2014
(In thousands)

	2016	2015	2014
NET CASH USED IN OPERATING ACTIVITIES	$ (45,181)	$ (8,696)	$ (25,591)
INVESTING ACTIVITIES:			
Investment in subsidiaries	—	(2,236,752)	—
Proceeds from dividends	54,770	250,000	—
Net cash provided by (used in) investing activities	$ 54,770	$ (1,986,752)	$ —
FINANCING ACTIVITIES:			
Payments of tax withholding for restricted shares	(11,500)	(15,398)	(3,607)
Exercise of options	1,952	27,217	29,766
Repurchase of ordinary shares	—	(250,088)	—
Issuance of ordinary shares	—	2,300,000	—
Payments related to the issuance of ordinary shares	—	(65,316)	—
Net cash (used in) provided by financing activities	$ (9,548)	$ 1,996,415	$ 26,159
NET INCREASE IN CASH AND CASH EQUIVALENTS	$ 41	$ 967	$ 568
CASH AND CASH EQUIVALENTS, BEGINNING OF PERIOD	1,535	568	—
CASH AND CASH EQUIVALENTS, END OF PERIOD	$ 1,576	$ 1,535	$ 568

See Notes to Condensed Financial Information.

ENDO INTERNATIONAL PLC
NOTES TO CONDENSED FINANCIAL STATEMENTS (Parent Company Only)
FOR THE YEARS ENDED DECEMBER 31, 2016, 2015 AND 2014

NOTE 1. BASIS OF PRESENTATION

The accompanying Condensed Financial Statements of Endo International plc (referred to in these Condensed Financial Statements as the Parent Company) have been prepared on a parent-only basis. Under this basis of presentation, the Parent Company's investments in its consolidated subsidiaries are presented under the equity method of accounting.

As of December 31 of each of the years presented in these Condensed Financial Statements, the Parent Company has intercompany balances with its equity method subsidiaries. Additionally, during each of the years presented in these Condensed Financial Statements, the Parent Company has engaged in transactions with its equity method subsidiaries. In connection with these transactions, there are frequent cash movements between the Parent Company and these subsidiaries, certain of which are structured and accounted for as dividends. Transactions between Endo International plc and its consolidated subsidiaries, which are eliminated in our Consolidated Financial Statements, are presented in these Condensed Financial Statements.

NOTE 2. DIVIDENDS RECEIVED

Endo International plc received dividends of $54.8 million and $250.0 million in 2016 and 2015, respectively, from its consolidated subsidiaries. Endo International plc received no dividends in 2014 from its consolidated subsidiaries.

NOTE 3. PAYABLE TO SUBSIDIARIES

On February 28, 2014, Endo International plc issued $24.7 million in aggregate principal amount of a non-interest bearing note to one of its equity method subsidiaries. The loan is due upon the earlier of the expiration date of five years from the issuance date or upon written demand by the subsidiary.

NOTE 4. GUARANTEES

In accordance with the provisions of Section 357 of the Companies Act 2014, the Parent Company has guaranteed the liabilities of certain of its Irish subsidiaries in respect of the year ended December 31, 2015 in order to avail of the exemption from the filing provisions under Section 347 of the Companies Act 2014. These Irish subsidiaries are Endo Ventures Limited and Endo DAC.

The Parent Company is also a guarantor on both Dublin leases at Minerva House and Simmonscourt House, respectively, both with an address at Simmonscourt Road, Dublin 4, Ireland.

SCHEDULE II—VALUATION AND QUALIFYING ACCOUNTS
(in thousands)

	Balance at Beginning of Period	Additions, Costs and Expenses	Deductions, Write-offs	Other (1)	Balance at End of Period
Allowance For Doubtful Accounts:					
Year Ended December 31, 2014	$ 5,594	$ 165	$ (1,840)	$ —	$ 3,919
Year Ended December 31, 2015	$ 3,919	$ 5,073	$ (5,212)	$ —	$ 3,780
Year Ended December 31, 2016	$ 3,780	$ 6,515	$ (3,339)	$ —	$ 6,956
Valuation Allowance For Deferred Tax Assets:					
Year Ended December 31, 2014	$ 18,773	$ 4,618	$ (3,799)	$ 21,054	$ 40,646
Year Ended December 31, 2015	$ 40,646	$ 386,087	$ (17,106)	$ 17,364	$ 426,991
Year Ended December 31, 2016	$ 426,991	$ 4,416,478	$ (2,039)	$ (221)	$ 4,841,209

(1) Represents opening balances of businesses acquired in the period.

All other financial statement schedules have been omitted because they are not applicable or the required information is included in the Consolidated Financial Statements or notes thereto.

3. Exhibits: The information called for by this Item is incorporated by reference to the Exhibit Index of this Report.

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.

ENDO INTERNATIONAL PLC

(Registrant)

/s/ PAUL V. CAMPANELLI

Name: **Paul V. Campanelli**

Title: **President and Chief Executive Officer**

(Principal Executive Officer)

Date: March 1, 2017

Pursuant to the requirements of the Securities Exchange of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/S/ PAUL V. CAMPANELLI Paul V. Campanelli	Director, President and Chief Executive Officer (Principal Executive Officer)	March 1, 2017
/S/ BLAISE COLEMAN Blaise Coleman	Executive Vice President, Chief Financial Officer (Principal Financial Officer)	March 1, 2017
/S/ DANIEL A. RUDIO Daniel A. Rudio	Senior Vice President, Controller (Principal Accounting Officer)	March 1, 2017
* Roger H. Kimmel	Chairman and Director	March 1, 2017
* Shane M. Cooke	Director	March 1, 2017
* Arthur J. Higgins	Director	March 1, 2017
* Nancy J. Hutson, Ph.D.	Director	March 1, 2017
* Michael Hyatt	Director	March 1, 2017
* Douglas S. Ingram	Director	March 1, 2017
* William P. Montague	Director	March 1, 2017
* Todd B. Sisitsky	Director	March 1, 2017
* Jill D. Smith	Director	March 1, 2017
* William F. Spengler	Director	March 1, 2017
*By: /S/ MATTHEW J. MALETTA Matthew J. Maletta	Attorney-in-fact pursuant to a Power of Attorney filed with this Report as Exhibit 24	March 1, 2017

INDEX TO FINANCIAL STATEMENTS

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The management of Endo International plc is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended. Endo International plc's internal control over financial reporting was designed to provide reasonable assurance regarding the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

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.

Endo International plc's management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2016. In making this assessment, it used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control-Integrated Framework (2013)*. Based on our assessment we determined that, as of December 31, 2016, the Company's internal control over financial reporting is effective based on those criteria.

Endo International plc's independent registered public accounting firm has issued its report on the effectiveness of the Company's internal control over financial reporting as of December 31, 2016. This report appears on page F-3.

/S/ PAUL V. CAMPANELLI

Paul V. Campanelli

Director, President and Chief Executive Officer
(Principal Executive Officer)

/S/ BLAISE COLEMAN

Blaise Coleman

Executive Vice President, Chief Financial Officer
(Principal Financial Officer)

March 1, 2017

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Endo International plc:

In our opinion, the consolidated financial statements listed in the index appearing under Item 15(a)(1) present fairly, in all material respects, the financial position of Endo International plc and its subsidiaries at December 31, 2016 and December 31, 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016 in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedules listed in the index appearing under Item 15(a)(2) presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements and financial statement schedules, 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 opinions on these financial statements, on the financial statement schedules and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. 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 audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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/ PricewaterhouseCoopers LLP

Philadelphia, Pennsylvania
March 1, 2017

ENDO INTERNATIONAL PLC
CONSOLIDATED BALANCE SHEETS
DECEMBER 31, 2016 AND 2015
(In thousands, except share and per share data)

	December 31, 2016	December 31, 2015
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 517,250	$ 272,348
Restricted cash and cash equivalents	282,074	585,379
Marketable securities	—	34
Accounts receivable, net of allowance of $6,956 and $1,309 at December 31, 2016 and 2015, respectively	992,153	1,014,808
Inventories, net	555,671	752,493
Prepaid expenses and other current assets	77,523	55,052
Income taxes receivable	47,803	735,901
Assets held for sale (NOTE 3)	116,985	36,522
Total current assets	$ 2,589,459	$ 3,452,537
MARKETABLE SECURITIES	2,267	3,855
PROPERTY, PLANT AND EQUIPMENT, NET	669,596	675,624
GOODWILL	4,729,395	7,299,354
OTHER INTANGIBLES, NET	5,859,297	7,828,942
DEFERRED INCOME TAXES	7,817	10,423
OTHER ASSETS	417,278	79,601
TOTAL ASSETS	$ 14,275,109	$ 19,350,336
LIABILITIES AND SHAREHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable and accrued expenses	$ 1,454,084	$ 1,510,115
Current portion of legal settlement accrual	1,015,932	1,606,726
Current portion of long-term debt	131,125	328,705
Income taxes payable	9,266	8,551
Liabilities held for sale (NOTE 3)	24,338	20,215
Total current liabilities	$ 2,634,745	$ 3,474,312
DEFERRED INCOME TAXES	192,297	871,040
LONG-TERM DEBT, LESS CURRENT PORTION, NET	8,141,378	8,251,657
LONG-TERM LEGAL SETTLEMENT ACCRUAL, LESS CURRENT PORTION, NET	—	549,098
OTHER LIABILITIES	605,100	236,253
COMMITMENTS AND CONTINGENCIES (NOTE 14)		
SHAREHOLDERS' EQUITY:		
Euro deferred shares, $0.01 par value; 4,000,000 shares authorized and issued	42	43
Ordinary shares, $0.0001 par value; 1,000,000,000 shares authorized; 222,954,175 and 222,124,282 shares issued and outstanding at December 31, 2016 and December 31, 2015, respectively	22	22
Additional paid-in capital	8,743,240	8,693,385
Accumulated deficit	(5,688,281)	(2,341,215)
Accumulated other comprehensive loss	(353,434)	(384,205)
Total Endo International plc shareholders' equity	$ 2,701,589	$ 5,968,030
Noncontrolling interests	—	(54)
Total shareholders' equity	$ 2,701,589	$ 5,967,976
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	$ 14,275,109	$ 19,350,336

See Notes to Consolidated Financial Statements.

ENDO INTERNATIONAL PLC
CONSOLIDATED STATEMENTS OF OPERATIONS
YEARS ENDED DECEMBER 31, 2016, 2015 AND 2014
(In thousands, except per share data)

	2016	2015	2014
TOTAL REVENUES	$ 4,010,274	$ 3,268,718	$ 2,380,683
COSTS AND EXPENSES:			
Cost of revenues	2,634,973	2,075,651	1,231,497
Selling, general and administrative	770,728	741,304	567,986
Research and development	183,372	102,197	112,708
Litigation-related and other contingencies, net	23,950	37,082	42,084
Asset impairment charges	3,781,165	1,140,709	22,542
Acquisition-related and integration items	87,601	105,250	77,384
OPERATING (LOSS) INCOME FROM CONTINUING OPERATIONS	$ (3,471,515)	$ (933,475)	$ 326,482
INTEREST EXPENSE, NET	452,679	373,214	227,114
LOSS ON EXTINGUISHMENT OF DEBT	—	67,484	31,817
OTHER (INCOME) EXPENSE, NET	(338)	63,691	(32,324)
(LOSS) INCOME FROM CONTINUING OPERATIONS BEFORE INCOME TAX	$ (3,923,856)	$ (1,437,864)	$ 99,875
INCOME TAX (BENEFIT) EXPENSE	(700,084)	(1,137,465)	38,267
(LOSS) INCOME FROM CONTINUING OPERATIONS	$ (3,223,772)	$ (300,399)	$ 61,608
DISCONTINUED OPERATIONS, NET OF TAX (NOTE 3)	(123,278)	(1,194,926)	(779,792)
CONSOLIDATED NET LOSS	$ (3,347,050)	$ (1,495,325)	$ (718,184)
Less: Net income (loss) attributable to noncontrolling interests	16	(283)	3,135
NET LOSS ATTRIBUTABLE TO ENDO INTERNATIONAL PLC	$ (3,347,066)	$ (1,495,042)	$ (721,319)
NET LOSS PER SHARE ATTRIBUTABLE TO ENDO INTERNATIONAL PLC ORDINARY SHAREHOLDERS—BASIC:			
Continuing operations	$ (14.48)	$ (1.52)	$ 0.42
Discontinued operations	(0.55)	(6.07)	(5.33)
Basic	$ (15.03)	$ (7.59)	$ (4.91)
NET LOSS PER SHARE ATTRIBUTABLE TO ENDO INTERNATIONAL PLC ORDINARY SHAREHOLDERS—DILUTED:			
Continuing operations	$ (14.48)	$ (1.52)	$ 0.40
Discontinued operations	(0.55)	(6.07)	(5.00)
Diluted	$ (15.03)	$ (7.59)	$ (4.60)
WEIGHTED AVERAGE SHARES:			
Basic	222,651	197,100	146,896
Diluted	222,651	197,100	156,730

See Notes to Consolidated Financial Statements.

ENDO INTERNATIONAL PLC
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
YEARS ENDED DECEMBER 31, 2016, 2015 AND 2014
(In thousands)

	2016		2015		2014	
CONSOLIDATED NET LOSS		$(3,347,050)		$(1,495,325)		$ (718,184)
OTHER COMPREHENSIVE INCOME (LOSS), NET OF TAX:						
Net unrealized (loss) gain on securities:						
Unrealized (loss) gain arising during the period	$ (914)		$ 2,299		$ (1,099)	
Less: reclassification adjustments for (gain) loss realized in net loss	(6)	(920)	—	2,299	17	(1,082)
Foreign currency translation gain (loss):						
Foreign currency gain (loss) arising during the period	$ 31,729		$ (284,722)		$ (121,389)	
Less: reclassification adjustments for loss realized in net loss	—	31,729	25,715	(259,007)	—	(121,389)
OTHER COMPREHENSIVE INCOME (LOSS)		$ 30,809		$ (256,708)		$ (122,471)
CONSOLIDATED COMPREHENSIVE LOSS		$(3,316,241)		$(1,752,033)		$ (840,655)
Less: Net income (loss) attributable to noncontrolling interests		16		(283)		3,135
Less: Other comprehensive income (loss) attributable to noncontrolling interests		38		(495)		(3,298)
COMPREHENSIVE LOSS ATTRIBUTABLE TO ENDO INTERNATIONAL PLC		$(3,316,295)		$(1,751,255)		$ (840,492)

See Notes to Consolidated Financial Statements.

ENDO INTERNATIONAL PLC
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
YEARS ENDED DECEMBER 31, 2016, 2015 AND 2014
(In thousands, except share data)

	Endo International plc Shareholders											
	Ordinary Shares		Euro Deferred Shares					Treasury Stock				
	Number of Shares	Amount	Number of Shares	Amount	Additional Paid-in Capital	Retained Earnings (Accumulated Deficit)	Accumulated Other Compre-hensive (Loss) Income	Number of Shares	Amount	Total Endo International plc Shareholders' Equity	Noncontrolling Interests	Total Shareholders' Equity
BALANCE, JANUARY 1, 2014	144,413,074	$ 1,444	—	$ —	$ 1,166,375	$ 126,234	$ (4,915)	(29,058,681)	$ (763,120)	$ 526,018	$ 59,198	$ 585,216
Net (loss) income	—	—	—	—	—	(721,319)	—	—	—	(721,319)	3,135	(718,184)
Other comprehensive loss	—	—	—	—	—	—	(119,173)	—	—	(119,173)	(3,298)	(122,471)
Compensation related to share-based awards	—	—	—	—	32,671	—	—	—	—	32,671	—	32,671
Forfeiture of restricted stock awards	(3,298)	—	—	—	—	—	—	—	—	—	—	—
Exercise of options	1,528,295	4	—	—	41,388	—	—	—	—	41,392	—	41,392
Tax benefits of share awards, net	—	—	—	—	33,531	—	—	—	—	33,531	—	33,531
Ordinary shares issued	36,235,228	17	—	—	2,844,349	—	—	—	—	2,844,366	—	2,844,366
Euro deferred shares issued	—	—	4,000,000	55	—	—	—	—	—	55	—	55
Tax withholding for restricted shares	—	—	—	—	(25,081)	—	—	—	—	(25,081)	—	(25,081)
Distributions to noncontrolling interests	—	—	—	—	—	—	—	—	—	—	(5,291)	(5,291)
Buy-out of noncontrolling interests, net	—	—	—	—	—	—	—	—	—	—	(1,729)	(1,729)
Addition of Paladin noncontrolling interests due to acquisition	—	—	—	—	—	—	—	—	—	—	38,800	38,800
Removal of HealthTronics, Inc. noncontrolling interests due to disposition	—	—	—	—	—	—	—	—	—	—	(57,359)	(57,359)
Result of contribution of Endo Health Solutions Inc. to Endo International plc	(29,058,681)	(1,450)	—	—	(761,670)	—	—	29,058,681	763,120	—	—	—
Repurchase of convertible senior subordinated notes due 2015	798,367	—	—	—	(309,829)	—	—	—	—	(309,829)	—	(309,829)
Settlement of common stock warrants	—	—	—	—	(284,454)	—	—	—	—	(284,454)	—	(284,454)
Settlement of the hedge on convertible senior subordinated notes due 2015	—	—	—	—	356,265	—	—	—	—	356,265	—	356,265
Other	—	—	—	(7)	322	—	—	—	—	315	—	315
BALANCE, DECEMBER 31, 2014	153,912,985	$ 15	4,000,000	$ 48	$ 3,093,867	$ (595,085)	$ (124,088)	—	$ —	$ 2,374,757	$ 33,456	$ 2,408,213
Net loss	—	—	—	—	—	(1,495,042)	—	—	—	(1,495,042)	(283)	(1,495,325)
Other comprehensive loss	—	—	—	—	—	—	(256,213)	—	—	(256,213)	(495)	(256,708)
Compensation related to share-based awards	—	—	—	—	61,185	—	—	—	—	61,185	—	61,185
Exercise of options	880,885	—	—	—	27,217	—	—	—	—	27,217	—	27,217
Tax benefits of share awards, net	—	—	—	—	20,051	—	—	—	—	20,051	—	20,051
Issuance of ordinary shares related to the employee stock purchase program	67,867	—	—	—	4,299	—	—	—	—	4,299	—	4,299
Ordinary shares issued	27,982,302	3	—	—	2,299,997	—	—	—	—	2,300,000	—	2,300,000
Equity issuance fees	—	—	—	—	(66,956)	—	—	—	—	(66,956)	—	(66,956)
Ordinary shares issued in connection with the Auxilium acquisition	18,609,835	2	—	—	1,519,318	—	—	—	—	1,519,320	—	1,519,320

	Endo International plc Shareholders											
	Ordinary Shares		Euro Deferred Shares					Treasury Stock				
	Number of Shares	Amount	Number of Shares	Amount	Additional Paid-in Capital	Retained Earnings (Accumulated Deficit)	Accumulated Other Compre-hensive (Loss) Income	Number of Shares	Amount	Total Endo International plc Shareholders' Equity	Noncontrolling Interests	Total Shareholders' Equity
Ordinary shares issued in connection with the Par acquisition	18,069,899	2	—	—	1,325,246	—	—	—	—	1,325,248	—	1,325,248
Tax withholding for restricted shares	—	—	—	—	(15,398)	—	—	—	—	(15,398)	—	(15,398)
Share repurchases	(4,361,957)	—	—	—	—	(251,088)	—	—	—	(251,088)	—	(251,088)
Buy-out of noncontrolling interests, net	—	—	—	—	(2,972)	—	(3,904)	—	—	(6,876)	(32,732)	(39,608)
Fair value of equity component of acquired Auxilium Notes	—	—	—	—	266,649	—	—	—	—	266,649	—	266,649
Conversion of Auxilium Notes	5,170,239	—	—	—	160,892	—	—	—	—	160,892	—	160,892
Settlement of common stock warrants	1,792,379	—	—	—	—	—	—	—	—	—	—	—
Other	(152)	—	—	(5)	(10)	—	—	—	—	(15)	—	(15)
BALANCE, DECEMBER 31, 2015	222,124,282	$ 22	4,000,000	$ 43	$ 8,693,385	$ (2,341,215)	$ (384,205)	—	$ —	$ 5,968,030	$ (54)	$ 5,967,976
Net (loss) income	—	—	—	—	—	(3,347,066)	—	—	—	(3,347,066)	16	(3,347,050)
Other comprehensive income	—	—	—	—	—	—	30,771	—	—	30,771	38	30,809
Compensation related to share-based awards	—	—	—	—	59,769	—	—	—	—	59,769	—	59,769
Exercise of options	62,589	—	—	—	1,952	—	—	—	—	1,952	—	1,952
Tax benefits of share awards, net	—	—	—	—	(5,449)	—	—	—	—	(5,449)	—	(5,449)
Issuance of ordinary shares related to the employee stock purchase plan	306,918	—	—	—	5,119	—	—	—	—	5,119	—	5,119
Ordinary shares issued	460,386	—	—	—	—	—	—	—	—	—	—	—
Tax withholding for restricted shares	—	—	—	—	(11,500)	—	—	—	—	(11,500)	—	(11,500)
Other	—	—	—	(1)	(36)	—	—	—	—	(37)	—	(37)
BALANCE, DECEMBER 31, 2016	222,954,175	$ 22	4,000,000	$ 42	$ 8,743,240	$ (5,688,281)	$ (353,434)	—	$ —	$ 2,701,589	$ —	$ 2,701,589

See Notes to Consolidated Financial Statements.

ENDO INTERNATIONAL PLC
CONSOLIDATED STATEMENTS OF CASH FLOWS
YEARS ENDED DECEMBER 31, 2016, 2015 AND 2014
(In thousands)

	2016	2015	2014
OPERATING ACTIVITIES:			
Consolidated net loss	$ (3,347,050)	$ (1,495,325)	$ (718,184)
Adjustments to reconcile consolidated net loss to Net cash provided by operating activities:			
Depreciation and amortization	983,309	632,756	331,651
Inventory step-up	108,768	232,461	65,582
Share-based compensation	59,769	61,185	32,671
Amortization of debt issuance costs and discount	28,514	23,604	29,086
Provision for bad debts	6,885	5,073	165
Provision for inventory reserve	129,245	111,750	39,606
Deferred income taxes	(745,341)	(447,168)	(275,123)
Net loss on disposal of property, plant and equipment	7,302	3,256	2,626
Change in fair value of contingent consideration	23,823	(65,640)	—
Loss on extinguishment of debt	—	67,484	31,817
Prepayment penalty on long-term debt	—	(31,496)	—
Asset impairment charges	3,802,493	1,390,281	22,542
Gain on sale of business and other assets	(4,110)	(13,550)	(8,780)
Changes in assets and liabilities which (used) provided cash:			
Accounts receivable	(7,387)	(274,994)	(341,404)
Inventories	(62,369)	(82,620)	2,740
Prepaid and other assets	68,773	18,283	51,895
Accounts payable and accrued expenses	(682,515)	443,398	1,453,388
Other liabilities	(524,532)	69,926	(302,251)
Income taxes payable/receivable	678,862	(586,638)	(80,251)
Net cash provided by operating activities	$ 524,439	$ 62,026	$ 337,776
INVESTING ACTIVITIES:			
Purchases of property, plant and equipment	(138,856)	(81,774)	(80,425)
Proceeds from sale of intellectual property and property, plant and equipment	6,762	—	174
Acquisitions, net of cash acquired	(30,394)	(7,650,404)	(1,086,510)
Proceeds from sale of marketable securities and investments	34	1,230	87,233
Proceeds from notes receivable	—	17	32,659
Increase in notes receivable	—	—	(35,400)
Patent acquisition costs and license fees	(19,206)	(43,968)	(5,000)
Proceeds from sale of business, net	4,108	1,588,779	54,521
Proceeds from settlement escrow	—	—	11,518
Increase in restricted cash and cash equivalents	(831,321)	(747,649)	(633,173)
Decrease in restricted cash and cash equivalents	1,134,734	688,999	869,936
Other investing activities	—	—	12,614
Net cash provided by (used in) investing activities	$ 125,861	$ (6,244,770)	$ (771,853)

	2016	2015	2014
FINANCING ACTIVITIES:			
Proceeds from issuance of notes	—	2,835,000	750,000
Proceeds from issuance of term loans	—	2,800,000	1,525,000
Principal payments on notes	—	(899,875)	—
Principal payments on term loans	(103,625)	(473,376)	(1,430,144)
Proceeds from draw of revolving debt	380,000	525,000	—
Repayments of revolving debt	(605,000)	(300,000)	—
Principal payments on other indebtedness, net	(7,736)	(10,070)	(7,588)
Repurchase of convertible senior subordinated notes	—	(247,760)	(587,803)
Sale of AMSH Inc. mandatorily redeemable preferred shares	—	60,000	—
Redemption of AMS mandatorily redeemable preferred shares	—	(60,000)	—
Payments to settle ordinary share warrants	—	—	(284,454)
Proceeds from the settlement of the hedge on convertible senior subordinated notes due 2015	—	—	356,265
Deferred financing fees	(500)	(125,111)	(62,715)
Payment for contingent consideration	(55,896)	(29,786)	—
Tax benefits of share awards	3,204	21,979	35,188
Payments of tax withholding for restricted shares	(11,500)	(15,398)	(25,081)
Exercise of options	1,952	27,217	41,392
Repurchase of ordinary shares	—	(250,088)	—
Issuance of ordinary shares related to the employee stock purchase plan	5,119	4,299	4,617
Issuance of ordinary shares	—	2,300,000	—
Payments related to the issuance of ordinary shares	—	(66,956)	(4,800)
Cash distributions to noncontrolling interests	—	—	(5,291)
Cash buy-out of noncontrolling interests	—	(39,608)	(1,729)
Net cash (used in) provided by financing activities	$ (393,982)	$ 6,055,467	$ 302,857
Effect of foreign exchange rate	328	(7,068)	(4,037)
Movement in cash held for sale	(11,744)	997	14,356
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	$ 244,902	$ (133,348)	$ (120,901)
CASH AND CASH EQUIVALENTS, BEGINNING OF PERIOD	272,348	405,696	526,597
CASH AND CASH EQUIVALENTS, END OF PERIOD	$ 517,250	$ 272,348	$ 405,696
SUPPLEMENTAL INFORMATION:			
Cash paid for interest	$ 429,172	$ 284,985	$ 159,492
Cash paid for income taxes	$ 63,983	$ 42,700	$ 36,356
Cash received from U.S. Federal tax refunds	$ 759,950	$ 162,821	$ 116,819
Cash paid into Qualified Settlement Funds for mesh legal settlements	$ 831,131	$ 743,132	$ 585,165
Cash paid out of Qualified Settlement Funds for mesh legal settlements	$ 1,134,734	$ 649,391	$ 111,454
Other cash distributions for mesh legal settlements	$ 7,830	$ 27,380	$ 26,709
SCHEDULE OF NON-CASH INVESTING AND FINANCING ACTIVITIES:			
Purchases of property, plant and equipment financed by capital leases	$ 716	$ 4,234	$ 4,784
Accrual for purchases of property, plant and equipment	$ 2,676	$ 4,476	$ 11,397
Acquisition financed by ordinary shares	$ —	$ 2,844,568	$ 2,844,279
Repurchase of convertible senior subordinated notes financed by ordinary shares	$ —	$ 625,483	$ 55,229

See Notes to Consolidated Financial Statements.

NOTE 1. DESCRIPTION OF BUSINESS

Endo International plc is an Ireland-domiciled, global specialty pharmaceutical company focused on generic and branded pharmaceuticals. We aim to be the premier partner to healthcare professionals and payment providers, delivering an innovative suite of generic and branded drugs to meet patients' needs. Unless otherwise indicated or required by the context, references throughout to "Endo," the "Company," "we," "our," or "us" refer to financial information and transactions of Endo International plc and its consolidated subsidiaries thereafter. The accompanying Consolidated Financial Statements of Endo International plc and its subsidiaries have been prepared in accordance with United States (U.S.) generally accepted accounting principles (GAAP).

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Consolidation and Basis of Presentation—The Consolidated Financial Statements include the accounts of wholly owned subsidiaries after the elimination of intercompany accounts and transactions.

Reclassifications—Certain prior period amounts have been reclassified to conform to the current period presentation.

The Company has modified its presentation of accounts payable and accrued expenses that had been in effect prior to December 31, 2016. The Company has combined amounts related to accounts payable and accrued expenses in its Consolidated Balance Sheets and Consolidated Statements of Cash Flows. The Company has applied this change retrospectively to all periods presented.

Use of Estimates—The preparation of our Consolidated Financial Statements in conformity with GAAP requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the Consolidated Financial Statements and the reported amounts of revenues and expenses during the reporting period. Significant estimates and assumptions are required in the determination of revenue recognition and sales deductions for estimated chargebacks, rebates, sales incentives and allowances, certain royalties, distribution service fees, returns and allowances. Significant estimates and assumptions are also required when determining the fair value of certain financial instruments, the valuation of long-lived and indefinite-lived intangible assets, goodwill, income taxes, contingencies and share-based compensation. Some of these judgments can be subjective and complex, and, consequently, actual results may differ from these estimates. Our estimates often are based on complex judgments, probabilities and assumptions that we believe to be reasonable but that are inherently uncertain and unpredictable. For any given individual estimate or assumption made by us, there may also be other estimates or assumptions that are reasonable.

We regularly evaluate our estimates and assumptions using historical experience and other factors, including the economic environment. As future events and their effects cannot be determined with precision, our estimates and assumptions may prove to be incomplete or inaccurate, or unanticipated events and circumstances may occur that might cause us to change those estimates and assumptions. Market conditions, such as illiquid credit markets, volatile equity markets, dramatic fluctuations in foreign currency rates and economic downturn, can increase the uncertainty already inherent in our estimates and assumptions. We adjust our estimates and assumptions when facts and circumstances indicate the need for change. Those changes generally will be reflected in our Consolidated Financial Statements on a prospective basis. It is possible that other professionals, applying reasonable judgment to the same facts and circumstances, could develop and support a range of alternative estimated amounts. We also are subject to other risks and uncertainties that may cause actual results to differ from estimated amounts, such as changes in the healthcare environment, competition, litigation, legislation and regulations.

Customer, Product and Supplier Concentration—We primarily sell our generic and branded pharmaceuticals to wholesalers, drug store chains, supermarket chains, mass merchandisers, distributors, mail order accounts, hospitals and government agencies. Our wholesalers and distributors purchase products from us and, in turn, supply products to retail drug store chains, independent pharmacies and managed health care organizations. Customers in the managed health care market include health maintenance organizations, nursing homes, hospitals, clinics, pharmacy benefit management companies and mail order customers. Total revenues from direct customers that accounted for 10% or more of our total consolidated revenues during the years ended December 31 are as follows:

	2016	2015	2014
Cardinal Health, Inc.	26%	21%	21%
McKesson Corporation	27%	31%	31%
AmerisourceBergen Corporation	25%	23%	16%

Revenues from these customers are included within our U.S. Generic Pharmaceuticals, U.S. Branded Pharmaceuticals and International Pharmaceuticals segments.

No products accounted for 10% or more of our total revenues during the years ended December 31, 2016, 2015 or 2014.

We have agreements with Novartis Consumer Health, Inc., Novartis AG, Sandoz, Inc., (collectively, Novartis) Teikoku Seiyaku Co., Ltd. (Teikoku), Noramco, Inc. (Noramco), Grünenthal GmbH (Grünenthal) and Jubilant HollisterStier Laboratories LLC (JHS), among others, for the manufacture and supply of several of our existing pharmaceutical products. See Note 14. Commitments and Contingencies for further information.

Revenue Recognition—

Pharmaceutical Products

Our net pharmaceutical product sales consist of revenues from sales of our pharmaceutical products, less estimates for chargebacks, rebates, sales incentives and allowances, certain royalties, distribution service fees, returns and allowances as well as fees for services. We recognize revenue for product sales when title and risk of loss has passed to the customer, which is typically upon delivery to the customer, when estimated provisions for revenue reserves are reasonably determinable, and when collectability is reasonably confirmed. Revenue from the launch of a new or significantly unique product may be deferred until such time that the product has achieved market acceptance. For these products, revenue is typically recognized based on dispensed prescription data and other information obtained prior to and during the period following launch.

Sales Deductions—When we recognize net sales from the sale of our pharmaceutical products, we record an adjustment to revenue for estimated revenue reserves. These provisions are estimated based on historical experience, estimated future trends, estimated customer inventory levels, current contract sales terms with our direct and indirect customers and other competitive factors. If the assumptions we used to calculate these adjustments do not appropriately reflect future activity, our financial position, results of operations and cash flows could be materially impacted.

Research and Development (R&D)—Expenditures for research and development are expensed as incurred. In addition to upfront and milestone payments, total R&D expenses include the costs of discovery research, preclinical development, early- and late-clinical development and drug formulation, as well as clinical trials, medical support of marketed products, other payments under third-party collaborations and contracts and other costs. R&D spending also includes enterprise-wide costs which support our overall R&D infrastructure. Property, plant and equipment that are acquired or constructed for research and development activities and that have alternate future uses are capitalized and depreciated over their estimated useful lives on a straight-line basis. Upfront and milestone payments made to third parties in connection with agreements with third parties are generally expensed as incurred up to the point of regulatory approval. Payments made to third parties subsequent to regulatory approval are generally capitalized and amortized over the remaining useful life of the related product. Amounts capitalized for such payments are included in Other intangibles, net in the Consolidated Balance Sheets.

Cash and Cash Equivalents—The Company considers all highly liquid money market instruments with an original maturity of three months or less when purchased to be cash equivalents. At December 31, 2016, cash equivalents were deposited in financial institutions and consisted of immediately available fund balances and time deposits. The Company maintains its cash deposits and cash equivalents with well-known and stable financial institutions.

Restricted Cash and Cash Equivalents—Cash and cash equivalents that are restricted as to withdrawal or use under the terms of certain contractual agreements are recorded in Restricted cash and cash equivalents in the Consolidated Balance Sheets. At December 31, 2016, restricted cash and cash equivalents totaled $282.1 million, of which $276.0 million is held in Qualified Settlement Funds (QSFs) for mesh product liability settlement agreements. The restricted cash related to QSFs are for payments related to the Company's vaginal mesh liability. See Note 14. Commitments and Contingencies for further information relating to the vaginal mesh liability. At December 31, 2015, restricted cash and cash equivalents totaled $585.4 million, of which $579.0 million was held in QSFs for mesh product liability settlement agreements.

Marketable Securities—The Company has equity securities, which consist of investments in the stock of publicly traded companies. For additional information see Note 7. Fair Value Measurements.

Accounts Receivable—Accounts receivable are stated at their net realizable value. The allowance for doubtful accounts against gross accounts receivable reflects the best estimate of probable losses inherent in the receivables portfolio determined on the basis of historical experience, specific allowances for known troubled accounts and other currently available information. In addition, accounts receivable is reduced by certain sales deduction reserves where we have the right of offset with the customer.

Concentrations of Credit Risk—Financial instruments that potentially subject the Company to significant concentrations of credit risk consist primarily of cash equivalents, marketable debt securities and accounts receivable. We invest our excess cash in high-quality, liquid money market instruments and time deposits maintained by major U.S. banks and financial institutions. We have not experienced any losses on our cash equivalents.

We perform ongoing credit evaluations of our customers and generally do not require collateral. We have no history of significant losses from uncollectible accounts. Approximately 84% and 77% of our gross trade accounts receivable balance represent amounts due from three customers at December 31, 2016 and 2015, respectively.

We do not expect our current or future credit risk exposures to have a significant impact on our operations. However, there can be no assurance that our business will not experience any adverse impact from credit risk in the future.

Inventories—Inventories consist of finished goods held for distribution, raw materials and work-in-process. Our inventories are stated at the lower of cost or market. Cost is determined by the first-in, first-out method. We write-down inventories to net realizable value based on forecasted demand and market conditions, which may differ from actual results. Inventory that is in excess of the amount expected to be sold within one year is classified as long-term inventory and is recorded in Other Assets in the Consolidated Balance Sheets.

Property, plant and equipment—Property, plant and equipment is stated at cost less accumulated depreciation. Major improvements are capitalized, while routine maintenance and repairs are expensed as incurred. Costs incurred on assets under construction are capitalized as construction is in progress. Depreciation is computed over the estimated useful life of the related assets on a straight-line basis. Leasehold improvements and capital lease assets are depreciated on a straight-line basis over the shorter of their estimated useful lives or the terms of their respective leases. Depreciation is not recorded on assets held for sale. Gains and losses on disposals are included in Other (income) expense, net in the Consolidated Statements of Operations.

Depreciation is based on the following estimated useful lives, as of December 31, 2016:

	Range of Useful Lives, from:		
Buildings	10 years	to	40 years
Machinery and equipment	2 years	to	20 years
Leasehold improvements	2 years	to	20 years
Computer equipment and software	2 years	to	7 years
Assets under capital lease	Shorter of useful life or lease term		
Furniture and fixtures	3 years	to	10 years

Computer Software—The Company capitalizes certain costs incurred in connection with obtaining or developing internal-use software, including external direct costs of material and services, and payroll costs for employees directly involved with the software development. Capitalized software costs are included in Property, plant and equipment, net in the Consolidated Balance Sheets and amortized beginning when the software project is substantially complete and the asset is ready for its intended use. Costs incurred during the preliminary project stage and post-implementation stage, as well as maintenance and training costs, are expensed as incurred.

Lease Accounting—The Company accounts for operating lease transactions by recording rent expense on a straight-line basis over the expected life of the lease, commencing on the date it gains possession of leased property. The Company includes tenant improvement allowances and rent holidays received from landlords and the effect of any rent escalation clauses as adjustments to straight-line rent expense over the expected life of the lease.

Capital lease transactions are reflected as a liability at the inception of the lease based on the present value of the minimum lease payments or, if lower, the fair value of the property. Assets under capital leases are recorded in Property, plant and equipment, net in the Consolidated Balance Sheets and depreciated in a manner similar to other Property, plant and equipment.

Certain construction projects may be accounted for as direct financing arrangements, whereby the Company records, over the construction period, the full cost of the asset in Property, plant and equipment, net in the Consolidated Balance Sheets. A corresponding liability is also recorded, net of leasehold improvements paid for by the Company, and is amortized over the expected lease term through monthly rental payments using an effective interest method. Assets recorded under direct financing arrangements are depreciated over the lease term.

License Rights—The cost of licenses are either expensed immediately or, if capitalized, are recorded at cost, less accumulated amortization and are amortized using the straight-line method over their estimated useful lives ranging from 3 years to 15 years, with a weighted average useful life of approximately 12 years. We determine amortization periods for licenses based on our assessment of various factors impacting estimated useful lives and cash flows of the acquired rights. Such factors include the expected launch date of the product, the strength of the intellectual property protection of the product and various other competitive, developmental and regulatory issues, and contractual terms. Significant changes to any of these factors may result in a reduction in the useful life of the asset and an acceleration of related amortization expense, which could cause our operating income, net income and net income per share to decrease.

Trade names—Acquired trade names are recorded at fair value upon acquisition and, if deemed to have definite lives, are amortized using the straight-line method over their estimated useful lives of approximately 12 years. We determine amortization periods for trade names based on our assessment of various factors impacting estimated useful lives and cash flows from the acquired assets. Such factors include the strength of the trade name and our plans regarding the future use of the trade name. Significant changes to any of these factors may result in a reduction in the useful life of the asset and an acceleration of related amortization expense, which could cause our operating income, net income and net income per share to decrease.

Developed Technology—Acquired developed technology is recorded at fair value upon acquisition and is amortized using the economic benefit model or the straight-line method, over the estimated useful life ranging from 1 year to 20 years for our intangibles relating to continuing operations, with a weighted average useful life of approximately 11 years. We determine amortization periods and method of amortization for developed technology based on our assessment of various factors impacting estimated useful lives and timing and extent of estimated cash flows of the acquired assets. Such factors include the strength of the intellectual property protection of the product and various other competitive and regulatory issues, and contractual terms. Significant changes to any of these factors may result in a reduction in the useful life of the asset and an acceleration of related amortization expense, which could cause our operating income, net income and net income per share to decrease. Amortization expense is not recorded on assets held for sale. The value of these assets is subject to continuing scientific, medical and marketplace uncertainty.

Long-Lived Asset Impairment Testing—Long-lived assets, which include property, plant and equipment and definite-lived intangible assets, are assessed for impairment whenever events or changes in circumstances indicate the carrying amount of the asset may not be recoverable. The impairment testing involves comparing the carrying amount of the asset to the forecasted undiscounted future cash flows generated by that asset. In the event the carrying amount of the asset exceeds the undiscounted future cash flows generated by that asset and the carrying amount is not considered recoverable, an impairment exists. An impairment loss is measured as the excess of the asset's carrying amount over its fair value. An impairment loss is recognized in net income in the period that the impairment occurs.

In-Process Research and Development Assets (IPR&D)—The fair value of IPR&D acquired in a business combination is determined based on the present value of each research project's projected cash flows using an income approach. Future cash flows are predominately based on the net income forecast of each project, consistent with historical pricing, margins and expense levels of similar products. Revenues are estimated based on relevant market size and growth factors, expected industry trends, individual project life cycles and the life of each research project's underlying patent. In determining the fair value of each research project, expected cash flows are adjusted for the technical and regulatory risk of completion.

IPR&D is initially capitalized and considered indefinite-lived intangible assets subject to annual impairment reviews. The reviews, which occur annually or more frequently upon the occurrence of certain events, requires the determination of the fair value of the respective intangible assets. If the fair value of the intangible assets is less than its carrying amount, an impairment loss is recognized for the difference. For those assets that reach commercialization, the assets are amortized over the expected useful lives.

Goodwill—Goodwill, which represents the excess of purchase price over the fair value of net assets acquired, is carried at cost. Goodwill is not amortized; rather, it is subject to a periodic assessment for impairment by applying a fair value based test. Goodwill is assessed for impairment on an annual basis, as of October 1st of each year or more frequently if events or changes in circumstances indicate that the asset might be impaired. The impairment model requires a two-step method for determining goodwill impairment. In the first step, we determine the fair value of our reporting units using an appropriate valuation methodology. If the net book value of a reporting unit exceeds its fair value, we would then perform the second step of the impairment test which requires allocation of the reporting unit's fair value to all of its assets and liabilities using the acquisition method prescribed under authoritative guidance for business combinations. Any residual fair value is allocated to goodwill. An impairment charge is recognized only when the implied fair value of our reporting unit's goodwill is less than its carrying amount.

Contingencies—The Company is subject to various patent challenges, product liability claims, government investigations and other legal proceedings in the ordinary course of business. Legal fees and other expenses related to litigation are expensed as incurred and included in Selling, general and administrative expenses or Discontinued operations, net of tax in the Consolidated Statements of Operations. Contingent accruals and legal settlements are recorded with a corresponding charge to Litigation-related and other contingencies, net or Discontinued operations, net of tax in the Consolidated Statements of Operations when the Company determines that a loss is both probable and reasonably estimable. Due to the fact that legal proceedings and other contingencies are inherently unpredictable, our assessments involve significant judgment regarding future events. The Company records a receivable from its product liability insurance carriers only when the resolution of any dispute has been reached and realization of the potential claim for recovery is considered probable.

Contingent Consideration—Certain of the Company's business acquisitions involve the potential for future payment of consideration that is contingent upon the achievement of operational and commercial milestones and royalty payments on future product sales. The fair value of contingent consideration liabilities is determined at the acquisition date using unobservable inputs. These inputs include the estimated amount and timing of projected cash flows, the probability of success (achievement of the contingent event) and the risk-adjusted discount rate used to present value the probability-weighted cash flows. Subsequent to the acquisition date, at each reporting period, the contingent consideration liability is remeasured at current fair value with changes recorded in earnings. Changes in any of the inputs may result in a significantly different fair value adjustment.

Share Repurchases—The Company accounts for the repurchase of ordinary shares at par value. Under applicable Irish law, ordinary shares repurchased are retired and not displayed separately as treasury stock. Upon retirement of the ordinary shares, the Company records the difference between the weighted average cost of such ordinary shares and the par value of the ordinary shares as an adjustment to Accumulated deficit in the Consolidated Balance Sheets.

Advertising Costs—Advertising costs are expensed as incurred and included in Selling, general and administrative expenses in the Consolidated Statements of Operations and amounted to $47.9 million, $57.9 million and $28.1 million for the years ended December 31, 2016, 2015 and 2014, respectively.

Cost of Revenues—Cost of revenues includes all costs directly related to bringing both purchased and manufactured products to their final selling destination. It includes purchasing and receiving costs, direct and indirect costs to manufacture products, including direct materials, direct labor, and direct overhead expenses necessary to acquire and convert purchased materials and supplies into finished goods. Cost of revenues also includes royalties paid or owed by Endo on certain in-licensed products, inspection costs, depreciation, amortization of intangible assets, warehousing costs, freight charges, costs to operate our equipment, and other shipping and handling activity.

Share-Based Compensation—Share-based compensation for employees and non-employee directors is measured at the grant date based on the estimated fair value of the award and is recognized as an expense over the requisite service period. Share-based compensation expense is reduced for estimated future forfeitures. These estimates are revised in future periods if actual forfeitures differ from the estimates. Changes in forfeiture estimates impact compensation expense in the period in which the change in estimate occurs.

Foreign Currency Translation—The Company's operations utilize the U.S. dollar (USD) or local currency as the functional currency, where applicable. The company identifies its separate and distinct foreign entities and groups the foreign entities into two categories: 1) extension of the parent (USD functional currency) and 2) self-contained (local functional currency). If a foreign entity does not align with either category, factors are evaluated and a judgment is made to determine the functional currency.

For foreign entities where the USD is the functional currency, all foreign currency-denominated asset and liability amounts are re-measured into USD at end-of-period exchange rates, except for inventories, prepaid expenses, property, plant and equipment, goodwill and other intangible assets, which are re-measured at historical rates. Foreign currency income and expenses are re-measured at average exchange rates in effect during the year, except for expenses related to balance sheet amounts re-measured at historical exchange rates. Exchange gains and losses arising from re-measurement of foreign currency-denominated monetary assets and liabilities are included in income in the period in which they occur.

For foreign entities where the local currency is the functional currency, assets and liabilities denominated in local currencies are translated into USD at end-of-period exchange rates and the resultant translation adjustments are reported, net of their related tax effects, as a component of accumulated other comprehensive income (loss) in equity. Assets and liabilities denominated in other than the local currency are re-measured into the local currency prior to translation into USD and the resultant exchange gains or losses are included in income in the period in which they occur. Income and expenses are translated into USD at average exchange rates in effect during the period.

Income Taxes—The Company accounts for income taxes under the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements. Under this method, deferred tax assets and liabilities are determined based on the differences between the financial statements and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date. The Company records net deferred tax assets to the extent it believes these assets will more likely than not be realized. In making such a determination, the Company considers all available positive and negative evidence, including projected future taxable income, tax-planning strategies and results of recent operations. In the event that the Company were to determine that it would be able to realize its deferred tax assets in the future in excess of their net recorded amount, the Company would make an adjustment to the deferred tax asset valuation allowance, which would reduce the provision for income tax.

The Company records uncertain tax positions in accordance with Accounting Standards Codification (ASC) Topic 740, Income Taxes, on the basis of a two-step process whereby the Company first determines whether it is more likely than not that the tax positions will be sustained based on the technical merits of the position and then measures those tax positions that meet the more-likely-than-not recognition threshold. The Company recognizes the largest amount of tax benefit that is greater than 50% likely to be realized upon ultimate settlement with the tax authority. The Company recognizes interest and penalties related to unrecognized tax benefits within the income tax expense line in the accompanying Consolidated Statements of Operations. Accrued interest and penalties are included within the related tax liability line in the Consolidated Balance Sheets.

Comprehensive Income—Comprehensive income includes all changes in equity during a period except those that resulted from investments by or distributions to a company's shareholders. Other comprehensive income or loss refers to revenues, expenses, gains and losses that are included in comprehensive income, but excluded from net income as these amounts are recorded directly as an adjustment to shareholders' equity.

Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards update (ASU) No. 2014-09, *"Revenue from Contracts with Customers"* (ASU 2014-09). ASU 2014-09 represents a comprehensive new revenue recognition model that requires a company to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which a company expects to be entitled to receive in exchange for those goods or services. This ASU sets forth a new five-step revenue recognition model which replaces the prior revenue recognition guidance in its entirety and is intended to eliminate numerous industry-specific pieces of revenue recognition guidance that have historically existed. In August 2015, the FASB issued ASU No. 2015-14, "*Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date,"* which defers the effective date of ASU 2014-09 by one year, but permits companies to adopt one year earlier if they choose (i.e., the original effective date). As such, ASU 2014-09 will be effective for annual and interim reporting periods beginning after December 15, 2017. In March and April 2016, the FASB issued ASU No. 2016-08 *"Revenue from Contracts with Customers (Topic 606): Principal versus Agent Consideration (Reporting Revenue Gross versus Net)"* and ASU No. 2016-10 *"Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing,"* respectively, which clarifies the guidance on reporting revenue as a principal versus agent, identifying performance obligations and accounting for intellectual property licenses. In addition, in May 2016, the FASB issued ASU No. 2016-12 *"Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients,"* which amends certain narrow aspects of Topic 606, and in December 2016, the FASB issued ASU No. 2016-20 *"Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers,"* which amends certain narrow aspects of Topic 606.

The Company will adopt the new revenue recognition standards on January 1, 2018. The Company has established a cross-functional implementation team consisting of representatives from across its business segments. The Company is currently in the process of performing a diagnostic assessment of the impact of the standard on its contract portfolio by reviewing the Company's current accounting policies and practices to identify potential differences that would result from applying the requirements of the new standard to its revenue contracts. In addition, during 2017 the Company plans to identify and implement, if necessary, appropriate changes to its business processes, systems and controls to support recognition and disclosure under the new standard. The implementation team intends to report the findings and progress of the project to the Company's management and the Audit Committee throughout the remainder of 2017. The Company is currently evaluating the impact of ASU 2014-09 on the Company's consolidated results of operations and financial position. In addition, the two permitted transition methods under the new standard are the full retrospective method, in which case the standard would be applied to each prior reporting period presented and the cumulative effect of applying the standard would be recognized at the earliest period shown, or the modified retrospective method, in which case the cumulative effect of applying the standard would be recognized at the date of initial application. The Company is currently evaluating which transition method it will elect.

In July 2015, the FASB issued ASU No. 2015-11, "*Simplifying the Measurement of Inventory"* (ASU 2015-11). ASU 2015-11 states that an entity should measure inventory at the lower of cost or net realizable value. Net realizable value is the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation. For public entities, ASU 2015-11 is effective for fiscal years beginning after December 15, 2016, including interim periods within those fiscal years. The amendments in this update should be applied prospectively and early application is permitted. The Company does not expect the adoption of ASU 2015-11 to impact the Company's consolidated results of operations and financial position.

In February 2016, the FASB issued ASU No. 2016-02, "*Leases (Topic 842)*" (ASU 2016-02). ASU 2016-02 establishes the principles to report transparent and economically neutral information about the assets and liabilities that arise from leases. This guidance results in a more faithful representation of the rights and obligations arising from operating and capital leases by requiring lessees to recognize the lease assets and lease liabilities that arise from leases in the statement of financial position and to disclose qualitative and quantitative information about lease transactions, such as information about variable lease payments and options to renew and terminate leases. ASU 2016-02 is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. The Company is currently evaluating the impact of ASU 2016-02 on the Company's consolidated results of operations and financial position.

In March 2016, the FASB issued ASU No. 2016-09 *"Improvements to Employee Share-Based Payment Accounting"* (ASU 2016-09). ASU 2016-09 changes how companies account for certain aspects of share-based payments to employees including: (a) requiring all income tax effects of awards to be recognized in the income statement, rather than in additional paid in capital, when the awards vest or are settled, (b) eliminating the requirement that excess tax benefits be realized before companies can recognize them, (c) requiring companies to present excess tax benefits as an operating activity on the statement of cash flows rather than as a financing activity, (d) increasing the amount an employer can withhold to cover income taxes on awards and still qualify for the exception to liability classification for shares used to satisfy the employer's statutory income tax withholding obligation, (e) requiring an employer to classify the cash paid to a tax authority when shares are withheld to satisfy its statutory income tax withholding obligation as a financing activity on its statement of cash flows and (f) electing whether to account for forfeitures of share-based payments by (1) recognizing forfeitures of awards as they occur or (2) estimating the number of awards expected to be forfeited and adjusting the estimate when it is likely to change, as is currently required. ASU 2016-09 is effective for fiscal years beginning after December 15, 2016, and interim periods within those fiscal years. The Company will adopt the new guidance on a prospective basis on January 1, 2017. The Company expects the primary impact of adoption to be the recognition of excess tax benefits and deficiencies within income taxes on continuing operations rather than within additional paid-in capital. If we had adopted the updated guidance in 2016, our income tax benefit would have decreased by $0.7 million, our effective tax rate would have decreased by a negligible amount and our diluted earnings per share attributable to Endo International plc shareholders in 2016 would not have changed. In addition, upon adoption the Company will retrospectively adopt the provision of this guidance related to changes to the statement of cash flows in any of the periods presented. The table below presents the effect on the Company's consolidated statement of cash flows for each of the years ended December 31, 2016, 2015 and 2014. These amounts are not necessarily indicative of amounts that the Company will recognize in future years related to the excess income tax benefits or deficiencies nor the cash paid for withholding taxes.

Year ended December 31, (in millions):	As Reported	Effect of Adoption	Upon Adoption
2016:			
Net cash provided by operating activities	$ 524,439	$ 3,204	$ 527,643
Net cash (used in) financing activities	$ (393,982)	$ (3,204)	$ (397,186)
2015:			
Net cash provided by (used in) operating activities	$ 62,026	$ 21,979	$ 84,005
Net cash provided by financing activities	$ 6,055,467	$ (21,979)	$ 6,033,488
2014:			
Net cash provided by (used in) operating activities	$ 337,776	$ 35,188	$ 372,964
Net cash provided by financing activities	$ 302,857	$ (35,188)	$ 267,669

The Company expects to continue estimating forfeitures to determine the amount of compensation cost to be recognized in each period. None of the other provisions in this amended guidance are expected to have a significant impact on the Company's consolidated financial statements.

In August 2016, the FASB issued ASU No. 2016-15 "Classification of Certain Cash Receipts and Cash Payments" (ASU 2016-15). ASU 2016-15 addresses eight specific cash flow issues with the objective of reducing diversity in how certain cash receipts and cash payments are presented and classified in the statement of cash flows. ASU 2016-15 is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. Early adoption is permitted in any interim or annual period but all of ASU 2016-15 must be adopted in the same period. The Company is currently evaluating the impact of ASU 2016-15 on the Company's consolidated statement of cash flows.

In October 2016, the FASB issued ASU No. 2016-16 "*Intra-Entity Transfers of Assets Other Than Inventory*" (ASU 2016-16). ASU 2016-16 states that an entity should recognize the income tax consequences when an intra-entity transfer of an asset other than inventory occurs. ASU 2016-16 is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. Early adoption is permitted as long as it is adopted in the first interim period of a fiscal year beginning after December 15, 2016. During the year ended December 31, 2016, the Company completed a legal entity restructuring as part of its continuing integration of its acquired businesses that was accounted for as an intra-entity transfer of assets. As a result, the Company recorded a current deferred charge of $34.3 million and a non-current deferred charge of $348.8 million in the Consolidated Balance Sheet at December 31, 2016 within Prepaid expenses and other current assets and Other assets, respectively. The impact of adopting the accounting guidance would be the elimination of approximately $25 million of the current deferred charge and all of the non-current deferred charge as an adjustment to retained earnings. Additionally, upon adoption, the Company would record additional net long-term deferred tax assets offset by a corresponding valuation allowance.

In November 2016, the FASB issued ASU No. 2016-18 "*Statement of Cash Flows (Topic 230) - Restricted Cash*" (ASU 2016-18). ASU 2016-18 states that a statement of cash flows should explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. ASU 2016-18 is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. Early adoption is permitted, including adoption in an interim period, and all updates should be applied using a retrospective transition method. The Company is currently evaluating the impact of ASU 2016-18 on the Company's consolidated statement of cash flows.

In January 2017, the FASB issued ASU No. 2017-01 *"Business Combinations (Topic 805) - Clarifying the Definition of a Business"* (ASU 2017-01). ASU 2017-01 clarifies the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The amendments in this update provide a screen to determine when an integrated set of assets and activities (collectively referred to as a "set"), is not a business. The screen requires that when substantially all of the fair value of the gross assets acquired (or disposed of) is concentrated in a single identifiable asset or a group of similar identifiable assets, the set is not a business. This screen reduces the number of transactions that need to be further evaluated. ASU 2017-01 is effective for annual periods beginning after December 15, 2017, including interim periods within those periods. The amendments in this update should be applied prospectively on or after the effective date. Early application of the amendments in this update is allowed as follows: 1) for transactions for which the acquisition date occurs before the issuance date or effective date of the amendments, only when the transaction has not been reported in financial statements that have been issued or made available for issuance; 2) for transactions in which a subsidiary is deconsolidated or a group of assets is derecognized that occur before the issuance date or effective date of the amendments, only when the transaction has not been reported in financial statements that have been issued or made available for issuance. The Company plans to early adopt this new standard as of January 1, 2017 and expects that ASU 2017-01 will result in fewer Company transactions meeting the definition of a business.

In January 2017, the FASB issued ASU No. 2017-04 *"Intangibles - Goodwill and Other (Topic 350): Simplifying the Accounting for Goodwill Impairment"* (ASU 2017-04). ASU 2017-04 simplifies the subsequent measurement of goodwill by eliminating Step 2 from the goodwill impairment test. In computing the implied fair value of goodwill under Step 2, an entity had to perform procedures to determine the fair value at the impairment testing date of its assets and liabilities (including unrecognized assets and liabilities) following the procedure that would be required in determining the fair value of assets acquired and liabilities assumed in a business combination. Instead, under ASU 2017-04, an entity should perform its annual or interim goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. An entity should recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value; however, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. Additionally, an entity should consider income tax effects from any tax deductible goodwill on the carrying amount of the reporting unit when measuring the goodwill impairment loss, if applicable. ASU 2017-04 is effective for annual or any interim goodwill impairment tests in fiscal years beginning after December 15, 2019 and an entity should apply the amendments of ASU 2017-04 on a prospective basis. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The Company plans to adopt this standard as of January 1, 2017 and will eliminate Step 2 from its goodwill tests.

NOTE 3. DISCONTINUED OPERATIONS AND HELD FOR SALE

American Medical Systems

On February 24, 2015, the Company's Board of Directors (Board of Directors) approved a plan to sell the Company's American Medical Systems Holdings, Inc. (AMS) business, which comprised the entirety of our former Devices segment. The AMS business was comprised of the Men's Health and Prostate Health business as well as the Women's Health business (referred to herein as Astora). On August 3, 2015, the Company sold the Men's Health and Prostate Health business to Boston Scientific Corporation (Boston Scientific) for $1.65 billion, with $1.60 billion paid upfront in cash and $50.0 million in cash contingent on Boston Scientific achieving certain product revenue milestones in the Men's Health and Prostate Health business in 2016. The milestones related to the $50.0 million contingent payment were not achieved. In addition, Boston Scientific paid $60.0 million in exchange for 60,000 shares of AMS Series B Non-Voting Preferred Stock (the Series B Senior Preferred Stock) sold by our subsidiary Endo Pharmaceuticals Inc. (EPI). On December 11, 2015, the Company repurchased the Series B Senior Preferred Stock from Boston Scientific Corporation for $61.6 million.

In addition to selling the Men's Health and Prostate Health business in 2015, as of December 31, 2015 and continuing into 2016, the Company was actively pursuing a sale of Astora with the Company in active negotiations with multiple potential buyers. The majority of the remaining assets and liabilities of the AMS business, which were related to Astora, were classified as held for sale in the Consolidated Balance Sheet as of December 31, 2015 in the Company's Form 10-K filed with the Securities and Exchange Commission (SEC) on February 29, 2016. Certain of AMS's assets and liabilities, primarily with respect to its product liability accrual related to vaginal mesh cases, the related QSFs and certain intangible and fixed assets, were not classified as held for sale based on management's expectation that these assets and liabilities would remain with the Company.

On February 24, 2016, the Board of Directors resolved to wind-down Astora as it did not align with the Company's strategic direction and to reduce Astora's exposure to mesh-related product liability. Astora conducted a wind-down process to transition physicians to alternative products during the first quarter of 2016. Astora ceased business operations on March 31, 2016. As a result, as of March 31, 2016 and periods thereafter, the remaining assets and liabilities of the AMS business, which were related to the Astora business, were no longer classified as held for sale in the Consolidated Balance Sheets. In accordance with applicable accounting guidance, the Company also reclassified the Astora assets and liabilities previously presented as held for sale as of December 31, 2015 to held and used on its Consolidated Balance Sheets.

The operating results of the AMS business are reported as Discontinued operations, net of tax in the Consolidated Statements of Operations for all periods presented.

In connection with classifying AMS as held for sale during 2015, the Company was required to compare the estimated fair values of the underlying disposal groups, less the costs to sell, to the respective carrying amounts. As a result of this analysis, the Company recorded a combined asset impairment charge of $222.8 million during the three months ended March 31, 2015, which was classified as Discontinued operations, net of tax in the Consolidated Statements of Operations. We estimated the fair value of the Men's Health and Prostate Health division based on the agreed-upon purchase price with Boston Scientific. The fair value of Astora was estimated based on contemporaneous expressions of interest from third parties. Subsequently, at the time of the sale of the Men's Health and Prostate Health component in August 2015, the Company recorded a gain based on the difference between the net proceeds received and the net book value of the assets sold of approximately $13.6 million, which included an adjustment of $25.7 million relating to amounts transferred from foreign currency translation adjustments and included in the determination of net income for the period as a result of the sale, which decreased the gain. This amount is included in Discontinued operations, net of tax in the Consolidated Statements of Operations for the year ended December 31, 2015.

During the three months ended September 30, 2015 and December 31, 2015, the Company compared the estimated fair value of Astora, less the costs to sell, to its respective carrying amount. As a result of these analyses, the Company recorded total additional asset impairment charges of $7.9 million for the year ended December 31, 2015, which were classified as Discontinued operations, net of tax in the Consolidated Statements of Operations.

In addition, as a result of determining that the sale of the AMS disposal groups was probable as of December 31, 2015, the Company re-assessed its permanent reinvestment assertion for certain components of the AMS business and recognized a corresponding tax benefit of $161.8 million during the year ended December 31, 2015, which was recorded as Income tax benefit (a component of (loss) income from continuing operations) in the Consolidated Statements of Operations. In addition, due to the overall differences between the book and tax basis of the underlying assets sold during the third quarter of 2015, the Company recognized a tax benefit of $157.4 million during the year ended December 31, 2015, from Discontinued operations.

As a result of the Astora wind-down initiative announced in the first quarter of 2016, the Company incurred asset impairment charges of $21.3 million during the year ended December 31, 2016. See below for discussion of our material wind-down initiatives.

The following table provides the operating results of AMS Discontinued operations, net of tax for the years ended December 31 (in thousands):

	2016	2015	2014
Revenue	$ 30,101	$ 305,256	$ 496,505
Litigation related and other contingencies, net	$ 20,115	$ 1,107,752	$ 1,273,358
Asset impairment charges	$ 21,328	$ 230,703	$ —
Gain on sale of business	$ —	$ 13,550	$ —
Loss from discontinued operations before income taxes	$ (123,164)	$ (1,352,344)	$ (1,225,576)
Income tax benefit	$ —	$ (157,418)	$ (440,107)
Discontinued operations, net of tax	$ (123,164)	$ (1,194,926)	$ (785,469)

The following table provides the Depreciation and amortization and Purchases of property, plant and equipment of AMS for the years ended December 31 (in thousands):

	2016	2015	2014
Cash flows from discontinued operating activities:			
Net loss	$ (123,164)	$ (1,194,926)	$ (785,469)
Depreciation and amortization	$ —	$ 11,555	$ 70,275
Net cash used in discontinued investing activities:			
Purchases of property, plant and equipment	$ (138)	$ (2,709)	$ (4,423)

Astora Restructuring

The Astora wind-down process includes a restructuring initiative implemented during the three months ended March 31, 2016, which includes the reduction of the Astora workforce consisting of approximately 250 employees. Under this restructuring initiative, separation costs are expensed over the requisite service period, if any, while retention is being expensed ratably over the respective retention period.

As a result of the Astora restructuring initiative, the Company incurred expenses of $60.9 million during the year ended December 31, 2016 consisting of employee separation and other benefit-related costs, asset impairment charges, contract termination charges and other general restructuring costs. There were no restructuring expenses related to this initiative during the year ended December 31, 2015. The Company anticipates there will be no significant additional pre-tax restructuring expenses related to employee separation and other benefit-related costs, contract termination charges and other restructuring costs. The majority of these actions were completed as of September 30, 2016 and substantially all cash payments will be made by June 30, 2017. These restructuring costs are included in Discontinued operations in the Consolidated Statements of Operations.

A summary of expenses related to the Astora restructuring initiative is included below for the year ended December 31, 2016 (in thousands):

	2016
Employee separation, retention and other benefit-related costs	$ 20,476
Asset impairment charges	21,328
Contract termination charges	8,074
Other wind down costs	10,972
Total	$ 60,850

The liability related to the Astora restructuring initiative totaled $5.5 million as of December 31, 2016 and is included in Accounts payable and accrued expenses in the Consolidated Balance Sheets. Changes to this accrual during the year ended December 31, 2016 were as follows (in thousands):

	Employee Separation, Retention and Other Benefit-Related Costs	Contract Termination Charges	Other Restructuring Costs	Total
Liability balance as of January 1, 2016	$ —	$ —	$ —	$ —
Expenses	20,476	8,074	5,798	34,348
Cash distributions	(16,621)	(6,413)	(5,798)	(28,832)
Liability balance as of December 31, 2016	$ 3,855	$ 1,661	$ —	$ 5,516

Litha

During the fourth quarter of 2016, the Company initiated a process to sell its Litha Healthcare Group Limited and related Sub-Sahara African business assets (Litha) and on February 27, 2017, the Company entered into a definitive agreement to sell Litha to Acino Pharma AG for up to $100 million in cash. See Note 22. Subsequent Events for further discussion. The assets and liabilities of Litha are classified as held for sale in the Consolidated Balance Sheet as of December 31, 2016.

The following table provides the components of Assets and Liabilities held for sale of Litha as of December 31, 2016 (in thousands):

	December 31, 2016
Current assets	$ 50,167
Property, plant and equipment	3,527
Other intangibles, net	29,950
Other assets	11,343
Assets held for sale	$ 94,987
Current liabilities	$ 18,642
Deferred taxes	—
Other liabilities	5,696
Liabilities held for sale	$ 24,338

Given that the sale of Litha does not represent a strategic shift in the Company's business, the Company has not classified the operations of this business as discontinued.

HealthTronics

On December 28, 2013, the Board of Directors approved a plan to sell the HealthTronics, Inc. (HealthTronics) business and the Company entered into a definitive agreement to sell the business on January 9, 2014 to Altaris Capital Partners LLC for an upfront cash payment of $85.0 million, subject to cash and other working capital adjustments. During the three months ended March 31, 2015, we received additional cash payments of $4.7 million from the purchaser of HealthTronics. The sale was completed on February 3, 2014.

In 2014, the Company recorded a net gain of $3.6 million, representing the carrying amount of the assets sold less the amount of the net proceeds, including the $4.7 million described above, which the Company became entitled to receive during the fourth quarter of 2014.

The operating results of this business are reported as Discontinued operations, net of tax, in the Consolidated Statements of Operations for the year ended December 31, 2014.

The following table provides the operating results of HealthTronics Discontinued operations, net of tax for the year ended December 31, 2014 (in thousands).

	2014
Revenue	$ 14,443
Income from discontinued operations before income taxes	$ 6,434
Income tax expense	$ 757
Discontinued operations, net of tax	$ 5,677

There were no Assets or Liabilities held for sale relating to HealthTronics included in the Consolidated Balance Sheets as of December 31, 2016 and 2015.

NOTE 4. RESTRUCTURING

U.S. Generic Pharmaceuticals Restructuring

2015 U.S Generic Pharmaceuticals Restructuring

In connection with the acquisition of Par Pharmaceutical Holdings, Inc. and its subsidiaries (together herein Par) on September 25, 2015, we implemented cost-rationalization and integration initiatives to capture operating synergies and generate cost savings across the Company. These measures included realigning the Company's U.S. Generic Pharmaceuticals segment sales, sales support, management activities and staffing, which resulted in separation benefits to certain U.S. Generic Pharmaceuticals employees. The cost reduction initiatives included a reduction in headcount of approximately 6% of the U.S. Generic Pharmaceuticals workforces. Under this restructuring initiative (the 2015 U.S. Generic Pharmaceuticals restructuring initiative), separation costs are expensed over the requisite service period, if any, while retention is expensed ratably over the respective retention period.

As a result of the 2015 U.S. Generic Pharmaceuticals restructuring initiative, the Company incurred restructuring expenses of $5.0 million and $23.6 million during the years ended December 31, 2016 and 2015, respectively, consisting of employee separation and other benefit-related costs. The Company does not anticipate any further restructuring expenses related to employee separation and other benefit-related costs. These actions were completed by October 31, 2016. In addition, the Company anticipates there will be additional restructuring expenses of approximately $2.5 million related to accelerated depreciation on certain assets. These restructuring costs are allocated to the U.S. Generic Pharmaceuticals segment, and are primarily included in Selling, general and administrative expenses in the Consolidated Statements of Operations.

The liability related to the 2015 U.S. Generic Pharmaceuticals restructuring initiative totaled $3.3 million and $17.9 million at December 31, 2016 and 2015, respectively. At December 31, 2016 and 2015, this liability is included in Accounts payable and accrued expenses in the Consolidated Balance Sheets. Changes to this accrual during the years ended December 31, 2016 and 2015 were as follows (in thousands):

	Total
Liability balance as of January 1, 2015	$ —
Expenses	23,591
Cash distributions	(5,677)
Liability balance as of January 1, 2016	$ 17,914
Expenses	5,010
Cash distributions	(19,655)
Liability balance as of December 31, 2016	$ 3,269

2016 U.S Generic Pharmaceuticals Restructuring

As part of the ongoing U.S. Generic Pharmaceuticals integration efforts, in May 2016 we announced a restructuring initiative to optimize our product portfolio and rationalize our manufacturing sites to expand product margins (the 2016 U.S. Generic Pharmaceuticals restructuring initiative). These measures include certain cost savings initiatives, including a reduction in headcount and the disposal of our Charlotte, North Carolina manufacturing facility (the Charlotte facility). On October 31, 2016, we entered into a definitive agreement to sell the Charlotte facility for proceeds of $14 million. The Company recorded an impairment charge of $6.9 million during the fourth quarter of 2016 related to fixed assets associated with the sale. The transaction closed in January 2017 and the assets and liabilities of the Charlotte facility were classified as held for sale in the accompanying Consolidated Balance Sheet as of December 31, 2016.

As a result of the 2016 U.S. Generic Pharmaceuticals restructuring initiative, the Company has incurred total restructuring expenses of $173.9 million through December 31, 2016 and expects to incur additional restructuring-related expenses of approximately $1.0 million consisting of accelerated depreciation, employee separation and other benefit-related costs and certain other charges. The Company anticipates these actions will be completed by September 2017, with substantially all cash payments made by the end of 2017. Under this restructuring initiative, separation costs are expensed ratably over the requisite service period, as applicable.

Restructuring charges of $173.9 million recorded during the year ended December 31, 2016, consisted of certain intangible asset impairment charges of $107.2 million, charges to increase excess inventory reserves of $33.3 million, charges relating to employee separation and other benefit-related costs of $17.0 million, accelerated depreciation of $10.2 million and other charges of $6.2 million. These charges are included in the U.S. Generic Pharmaceuticals segment and are included in Asset impairment charges, Cost of revenues, and Selling, general and administrative expenses in the Consolidated Statements of Operations.

The liability related to the 2016 U.S. Generic Pharmaceuticals restructuring initiative totaled $9.9 million at December 31, 2016 and is included in Accounts payable and accrued expenses in the Consolidated Balance Sheets. Changes to the accrual during the year ended December 31, 2016 were as follows (in thousands):

	Total
Liability balance as of January 1, 2016	$ —
Expenses	16,983
Cash distributions	(7,044)
Liability balance as of December 31, 2016	$ 9,939

2016 U.S. Branded Pharmaceutical Restructuring

In December 2016, the Company announced that it was terminating its worldwide license and development agreement with BioDelivery Sciences International, Inc. (BDSI) for BELBUCA™ and returning the product to BDSI. This transaction closed on January 6, 2017. As a result of this announcement and a comprehensive assessment of its product portfolio, the Company restructured its U.S. Branded Pharmaceuticals segment sales organization during the fourth quarter of 2016 (the 2016 U.S. Branded restructuring initiative). This restructuring was comprised of certain cost savings initiatives, including the elimination of an approximate 375-member U.S. Branded pain field sales force and the termination of certain contracts. The Company's legacy pain portfolio products will be managed as mature brands going forward.

As a result of the 2016 U.S. Branded restructuring initiative, the Company incurred total pre-tax charges of approximately $61.5 million during the fourth quarter of 2016. These charges consisted of a non-cash intangible asset impairment charge of approximately $36.8 million, employee separation and other benefit-related costs of $16.5 million, early contract termination fees of $5.2 million, and $3.0 million of inventory write-offs. These actions were completed by December 31, 2016 and substantially all of the cash payments are anticipated to be made by the end of 2017. These charges are included in the U.S. Branded Pharmaceuticals segment and are included in Asset impairment charges, Cost of revenues, and Selling, general and administrative expenses in the Consolidated Statements of Operations. The Company does not anticipate there will be additional material pre-tax restructuring expenses related to this initiative.

The liability related to the 2016 U.S. Branded Pharmaceutical restructuring initiative totaled $21.8 million at December 31, 2016 and is included in Accounts payable and accrued expenses in the Consolidated Balance Sheets. Changes to the accrual during the year ended December 31, 2016 were as follows (in thousands):

	Employee Separation and Other Benefit-Related Costs	Contract Termination Charges	Total
Liability balance as of January 1, 2016	$ —	$ —	$ —
Expenses	16,544	5,224	21,768
Cash distributions	—	—	—
Liability balance as of December 31, 2016	$ 16,544	$ 5,224	$ 21,768

Auxilium Restructuring

In connection with the acquisition of Auxilium Pharmaceuticals, Inc. (subsequently converted to Auxilium Pharmaceuticals LLC hereafter referred to as Auxilium) on January 29, 2015, the Company implemented cost-rationalization and integration initiatives to capture operating synergies and generate cost savings across the Company (the Auxilium restructuring initiative). These measures included realigning our sales, sales support, management activities and staffing, which included separation benefits to former Auxilium employees, in addition to the closing of duplicative facilities. The cost reduction initiatives included a reduction in headcount of approximately 40% of the former Auxilium workforce. For former Auxilium employees that agreed to continue employment with the Company for a merger transition period, the separation costs payable upon completion of their retention period were expensed over their respective retention period.

As a result of the Auxilium restructuring initiative, the Company incurred restructuring expenses of $41.9 million during the year ended December 31, 2015, consisting of $26.7 million of employee severance and other benefit-related costs. The expenses were also attributable to certain charges related to our Auxilium subsidiary's former corporate headquarters in Chesterbrook, Pennsylvania, including $7.0 million of asset impairment charges on certain related leasehold improvements during the first quarter of 2015, and $7.9 million recorded upon the facility's cease use date, representing the liability for our remaining obligations under the respective lease agreement, net of estimated sublease income, during the first quarter of 2015. These restructuring costs are included in the U.S. Branded Pharmaceuticals segment, and are primarily included in Selling, general and administrative costs and expenses in the Consolidated Statements of Operations. There were no expenses associated with this restructuring for the year ended December 31, 2016 and the Company does not anticipate any additional pre-tax restructuring expenses. A summary of expenses related to the Auxilium restructuring initiatives is included below for the year ended December 31, 2015 (in thousands):

	December 31, 2015
Employee Separation and Other Benefit-Related Costs	$ 26,696
Asset Impairment Charges	7,000
Other Restructuring Costs	8,215
Total	$ 41,911

Substantially all employee separation and other benefit-related costs cash payments relating to this initiative were made by the end of 2016 and the remainder of the cash payments will be made over the remaining lease term of Auxilium's former corporate headquarters in Chesterbrook, Pennsylvania.

The liability related to the Auxilium restructuring initiative totaled $5.5 million and $12.3 million at December 31, 2016 and 2015, respectively, and is included in Accounts payable and accrued expenses and Other liabilities in the Consolidated Balance Sheets. Changes to this accrual during the year ended December 31, 2016 were as follows (in thousands):

	Employee Separation and Other Benefit-Related Costs	Other Restructuring Costs	Total
Liability balance as of January 1, 2015	$ —	$ —	$ —
Expenses	26,696	8,215	34,911
Cash distributions	(21,343)	(1,305)	(22,648)
Liability balance as of January 1, 2016	$ 5,353	$ 6,910	$ 12,263
Cash distributions	(5,353)	(1,406)	(6,759)
Liability balance as of December 31, 2016	$ —	$ 5,504	$ 5,504

January 2017 Restructuring

On January 26, 2017, the Company announced a restructuring initiative implemented as part of its ongoing organizational review (the January 2017 restructuring initiative). This restructuring is intended to further integrate, streamline and optimize the Company's operations by aligning certain corporate and R&D functions with its recently restructured U.S. Generics Pharmaceutical and U.S. Branded Pharmaceutical business units in order to create efficiencies and cost savings.

As part of this restructuring, the Company will undertake certain cost reduction initiatives, including a reduction of approximately 90 positions of its workforce, primarily related to corporate and U.S. Branded Pharmaceutical R&D functions in Malvern, PA and Chestnut Ridge, NY, a streamlining of general and administrative expenses, an optimization of commercial spend and a refocusing of research and development efforts. The Company expects to incur cash charges of approximately $15 million to $20 million of employee separation and other benefit-related costs in connection with the January 2017 restructuring initiative. Substantially all of these cash payments are anticipated to be made by the end of 2017 and the Company anticipates that substantially all of the actions associated with this restructuring will be completed by the end of April 2017. Under this restructuring, separation costs are expensed over the requisite service period, if any, while retention costs are expensed ratably over the respective retention period. There were no expenses recorded for the year ended December 31, 2016 related to the January 2017 restructuring initiative.

NOTE 5. ACQUISITIONS

For each of the acquisitions described below, the estimated fair values of the net assets acquired have been finalized and all measurement period adjustments were complete as of December 31, 2016.

Paladin Labs Inc. Acquisition

On February 28, 2014 (the Paladin Acquisition Date), the Company acquired all of the shares of Paladin Labs Inc. (Paladin) Under the terms of the transaction, former Paladin shareholders received 1.6331 Endo ordinary shares, or 35.5 million shares, and C$1.16 in cash, for total consideration of $2.87 billion as of February 28, 2014.

Paladin is a specialty pharmaceutical company headquartered in Montreal, Canada, focused on acquiring and in-licensing innovative pharmaceutical products for the Canadian and world markets. Paladin's key products serve growing therapeutic areas, including attention deficit hyperactivity disorder (ADHD), pain, and urology. In addition to its Canadian operations, as of the Paladin Acquisition Date, Paladin owned a controlling interest in Laboratorios Paladin de Mexico S.A. in Mexico and in publicly traded Litha in South Africa.

The operating results of Paladin are included in the accompanying Consolidated Statements of Operations for the years ended December 31, 2016 and 2015 and the operating results from the acquisition date of February 28, 2014 are included in the accompanying Consolidated Statements of Operations for the year ended December 31, 2014. The Consolidated Balance Sheets as of December 31, 2016 and 2015 reflect the acquisition of Paladin. Our measurement period adjustments for Paladin were complete as of February 28, 2015.

The amounts of Paladin Revenue and Net income attributable to Endo International plc included in the Company's Consolidated Statements of Operations from and including February 28, 2014 to December 31, 2014 are as follows (in thousands, except per share data):

Revenue	$	224,806
Net income attributable to Endo International plc	$	26,966
Basic net income per share	$	0.18
Diluted net income per share	$	0.17

The following supplemental unaudited pro forma information presents the financial results as if the acquisition of Paladin had occurred on January 1, 2014 for the year ended December 31, 2014. This supplemental pro forma information has been prepared for comparative purposes and does not purport to be indicative of what would have occurred had the acquisition been made on January 1, 2014, nor are they indicative of any future results.

		Year Ended December 31, 2014
Unaudited pro forma consolidated results (in thousands, except per share data):		
Revenue	$	2,423,683
Net loss attributable to Endo International plc	$	(727,961)
Basic net (loss) per share	$	(4.96)
Diluted net (loss) per share	$	(4.64)

These amounts have been calculated after applying the Company's accounting policies and adjusting the results of Paladin to reflect factually supportable adjustments that give effect to events that are directly attributable to the Paladin acquisition assuming the Paladin acquisition had occurred January 1, 2014. These adjustments mainly include adjustments to interest expense and additional intangible amortization. The adjustments to interest expense, net of tax, related to borrowings to finance the acquisition which decreased the expense by $4.1 million for the year ended December 31, 2014. The adjustments to additional intangible amortization, net of tax, that would have been charged assuming the Company's estimated fair value of the intangible assets, increased the expense by $2.8 million for the year ended December 31, 2014.

Acquisition of Remaining Shares of Litha

In February 2015, the Company acquired substantially all of Litha's remaining outstanding ordinary share capital that it did not own for consideration of approximately $40 million. At December 31, 2014, the Company owned 70.3% of the issued ordinary share capital of Litha. In connection with this transaction, the Company had deposited cash into an escrow account, primarily for the purpose of guaranteeing amounts required to be paid to Litha's security holders in connection with this acquisition, which was released from escrow at the time of acquisition. As of December 31, 2016, the assets and liabilities of the Litha business are classified as held for sale as further discussed in Note 3. Discontinued Operations and Held for Sale.

Auxilium Pharmaceuticals, Inc.

On January 29, 2015 (the Auxilium Acquisition Date), the Company acquired all of the outstanding shares of common stock of Auxilium, a fully integrated specialty biopharmaceutical company in the men's healthcare sector with a strategically focused product portfolio and pipeline in orthopedics, dermatology and other therapeutic areas, in a cash and stock transaction valued at $2.6 billion.

The operating results of Auxilium are included in the accompanying Consolidated Statements of Operations for the year ended December 31, 2016 and the operating results from the acquisition date of January 29, 2015 are included in the accompanying Consolidated Statements of Operations for the year ended December 31, 2015. The Consolidated Balance Sheets as of December 31, 2016 and 2015 reflect the acquisition of Auxilium. Our measurement period adjustments for Auxilium were complete as of December 31, 2015.

The Company recognized no acquisition-related transaction costs associated with the Auxilium acquisition during the year ended December 31, 2016. The Company recognized acquisition-related transaction costs associated with the Auxilium acquisition during the year ended December 31, 2015 totaling $23.1 million. These costs, which related primarily to bank fees, legal and accounting services, and fees for other professional services, are included in Acquisition-related and integration items in the accompanying Consolidated Statements of Operations.

The amounts of Auxilium Revenue and Net loss included in the Company's Consolidated Statements of Operations from and including January 29, 2015 to December 31, 2015 are as follows (in thousands, except per share data):

Revenue	$	341,520
Net loss attributable to Endo International plc (1)	$	(469,986)
Basic and diluted net loss per share	$	(2.38)

(1) Net loss attributable to Endo International plc does not include any portion of the goodwill impairment charges recorded during 2015 since it is not possible to distinguish the amount of the charges directly attributable to Auxilium.

The following supplemental unaudited pro forma information presents the financial results as if the acquisition of Auxilium had occurred on January 1, 2015 for the year ended December 31, 2015. This supplemental pro forma information has been prepared for comparative purposes and does not purport to be indicative of what would have occurred had the acquisition been made on January 1, 2015, nor are they indicative of any future results.

		Year Ended December 31, 2015
Unaudited pro forma consolidated results (in thousands, except per share data):		
Revenue	$	3,292,293
Net loss attributable to Endo International plc	$	(1,513,625)
Basic and diluted net loss per share	$	(7.68)

These amounts have been calculated after applying the Company's accounting policies and adjusting the results of Auxilium to reflect factually supportable adjustments that give effect to events that are directly attributable to the Auxilium acquisition assuming the Auxilium acquisition had occurred on January 1, 2015. These adjustments mainly include adjustments to interest expense and additional intangible amortization. The adjustments to interest expense, net of tax, related to borrowings to finance the acquisition increased the expense by $1.1 million for the year ended December 31, 2015. In addition, the adjustments include additional intangible amortization, net of tax, which would have been charged assuming the Company's estimated fair value of the intangible assets. The adjustment to the amortization expense for the year ended December 31, 2015 increased the expense by $6.2 million.

Acquisition of Par Pharmaceutical Holdings, Inc.

On September 25, 2015 (Par Acquisition Date), the Company acquired Par, a specialty pharmaceutical company that develops, licenses, manufactures, markets and distributes innovative and cost-effective pharmaceuticals with a focus on high-barrier-to-entry products and first-to-file or first-to-market opportunities, for total consideration of $8.14 billion, including the assumption of Par debt. The consideration included the Company's 18,069,899 ordinary shares valued at $1.33 billion.

The operating results of Par are included in the accompanying Consolidated Statements of Operations for the year ended December 31, 2016 and the operating results from the acquisition date of September 25, 2015 are included in the accompanying Consolidated Statements of Operations for the year ended December 31, 2015. The Consolidated Balance Sheets as of December 31, 2016 and 2015 reflect the acquisition of Par. The amounts of Par revenue and Net loss attributable to Endo International plc included in the Company's Consolidated Statements of Operations for the year ended December 31, 2015 from and including September 25, 2015 to December 31, 2015 are as follows (in thousands, except per share data):

Revenue	$	401,238
Net loss attributable to Endo International plc	$	(4,348)
Basic and diluted net loss per share	$	(0.02)

The following table summarizes the fair values of the assets acquired and liabilities assumed at the Par Acquisition Date, including measurement period adjustments since the fair values presented in the Company's Form 10-K for the year ended December 31, 2015 filed with the SEC on February 29, 2016, (in thousands):

	September 25, 2015	Measurement period adjustments	September 25, 2015 (As adjusted)
Cash and cash equivalents	$ 215,612	$ —	$ 215,612
Accounts and other receivables	530,664	(13,755)	516,909
Inventories	330,406	(1,849)	328,557
Prepaid expenses and other current assets	31,124	—	31,124
Deferred income tax assets, current	14,652	30,176	44,828
Property, plant and equipment	256,293	4,744	261,037
Intangible assets	3,627,000	(154,500)	3,472,500
Other assets	8,477	—	8,477
Total identifiable assets	$ 5,014,228	$ (135,184)	$ 4,879,044
Accounts payable and accrued expenses	$ 551,614	$ (511)	$ 551,103
Deferred income tax liabilities	1,093,779	(44,961)	1,048,818
Other liabilities	16,057	2,556	18,613
Total liabilities assumed	$ 1,661,450	$ (42,916)	$ 1,618,534
Net identifiable assets acquired	$ 3,352,778	$ (92,268)	$ 3,260,510
Goodwill	4,782,876	92,268	4,875,144
Net assets acquired	$ 8,135,654	$ —	$ 8,135,654

Our measurement period adjustments for Par were complete as of September 30, 2016. As a result of the measurement period adjustments recorded above, the Company recorded a reduction of $3.8 million of expense, $3.1 million related to the amortization of intangible assets and $0.7 million related to the amortization of inventory step-up, during the year ended December 31, 2016. During the three months ended December 31, 2015, the Company recorded an additional $3.1 million of expense related to the amortization of inventory step-up and intangible assets, which related to the third quarter of 2015.

The valuation of the intangible assets acquired and related amortization periods are as follows:

	Valuation (in millions)	Amortization period (in years)
Developed Technology:		
Vasostrict®	$ 556.0	8
Aplisol®	312.4	11
Developed - Other - Non-Partnered (Generic Non-Injectable)	230.4	7
Developed - Other - Partnered (Combined)	164.4	7
Nascobal®	118.3	9
Developed - Other - Non-Partnered (Generic Injectable)	116.4	10
Other	517.9	9
Total	$ 2,015.8	
In Process Research & Development (IPR&D):		
IPR&D 2019 Launch	$ 401.0	n/a
IPR&D 2018 Launch	283.8	n/a
Ezetimibe	147.6	n/a
IPR&D 2016 Launch	133.3	n/a
Ephedrine Sulphate	128.6	n/a
Neostigmine vial	118.6	n/a
Other	243.8	n/a
Total	$ 1,456.7	n/a
Total other intangible assets	$ 3,472.5	n/a

The fair values of the developed technology and IPR&D assets were estimated using a discounted present value income approach. Under this method, an intangible asset's fair value is equal to the present value of the incremental after-tax cash flows (excess earnings) attributable solely to the intangible asset over its remaining useful life. To calculate fair value, the Company used cash flows discounted at rates ranging from 9% to 10.5%, which were considered appropriate given the inherent risks associated with each type of asset. The Company believes that the level and timing of cash flows appropriately reflect market participant assumptions.

The goodwill recognized is attributable primarily to strategic and synergistic opportunities related to existing pharmaceutical businesses, the assembled workforce of Par and other factors. At the acquisition date, approximately $34.2 million of goodwill was expected to be deductible for income tax purposes.

Deferred tax assets and liabilities are related primarily to the difference between the book basis and tax basis of identifiable intangible assets and inventory step-up.

The following supplemental unaudited pro forma information presents the financial results as if the acquisition of Par had occurred on January 1, 2015 for the year ended December 31, 2015. This supplemental pro forma information has been prepared for comparative purposes and does not purport to be indicative of what would have occurred had the acquisition been made on January 1, 2015, nor are they indicative of any future results.

	Year Ended December 31, 2015
Unaudited pro forma consolidated results (in thousands, except per share data):	
Revenue	$ 4,268,110
Net loss attributable to Endo International plc	$ (1,594,130)
Basic and diluted net loss per share	$ (8.09)

These amounts have been calculated after applying the Company's accounting policies and adjusting the results of Par to reflect factually supportable adjustments that give effect to events that are directly attributable to the Par acquisition assuming the Par acquisition had occurred on January 1, 2015. These adjustments mainly include adjustments to interest expense and additional intangible amortization. The adjustments to interest expense, net of tax, related to borrowings to finance the acquisition increased the expense by $11.7 million for the year ended December 31, 2015. In addition, the adjustments include additional intangible amortization, net of tax, that would have been charged assuming the Company's estimated fair value of the intangible assets. An adjustment to the amortization expense for the year ended December 31, 2015 increased the expense by $129.2 million.

Aspen Holdings

On October 1, 2015, the Company acquired a broad portfolio of branded and generic injectable and established products focused on pain, anti-infectives, cardiovascular and other specialty therapeutic areas from a subsidiary of Aspen Pharmacare Holdings Ltd, a leading publicly-traded South African company that supplies branded and generic products in more than 150 countries, and from GlaxoSmithKline plc (GSK) for total consideration of approximately $135.6 million (the Aspen Asset Acquisition). The Company is accounting for this transaction as a business combination in accordance with the relevant accounting literature. The transaction expanded the Company's presence in South Africa.

The operating results of the Aspen Asset Acquisition are included in the accompanying Consolidated Statements of Operations for the year ended December 31, 2016 and the operating results from the acquisition date of October 1, 2015 are included in the accompanying Consolidated Statements of Operations for the year ended December 31, 2015. The Consolidated Balance Sheets as of December 31, 2016 and 2015 reflect the Aspen Asset Acquisition. Aspen Holdings is part of our Litha business, and as of December 31, 2016, the assets and liabilities of the Litha business, including the assets acquired in the Aspen Asset Acquisition, are classified as held for sale as further discussed in Note 3. Discontinued Operations and Held for Sale. Our measurement period adjustments for the Aspen Asset Acquisition were complete as of September 30, 2016.

Pro forma results of operations have not been presented because the effect of the Aspen Asset Acquisition was not material.

Voltaren® Gel

The Company had exclusive U.S. marketing rights to Voltaren® Gel through June 30, 2016 pursuant to a License and Supply Agreement entered into in 2008 with and among Novartis AG and Novartis Consumer Health, Inc. (the 2008 Voltaren® Gel Agreement). On December 11, 2015, the Company, Novartis AG and Sandoz entered into a new License and Supply Agreement (the 2015 Voltaren® Gel Agreement) whereby the Company licensed exclusive U.S. marketing and license rights to commercialize Voltaren® Gel and to launch an authorized generic of Voltaren® Gel effective July 1, 2016. Pursuant to the 2015 Voltaren® Gel Agreement, the former 2008 Voltaren® Gel Agreement expired on June 30, 2016 in accordance with its terms.

The Company is accounting for this transaction as a business combination as of the effective date in accordance with the relevant accounting literature. The Company acquired the product for consideration of approximately $162.7 million, consisting of an upfront payment of $16.2 million and contingent cash consideration with an acquisition-date fair value of approximately $146 million, including the impact of a measurement period adjustment recorded during the fourth quarter of 2016. See Note 7. Fair Value Measurements for further discussion of this contingent consideration. See Note 11. License and Collaboration Agreements for further discussion of the License and Supply Agreement.

The preliminary fair values of the net identifiable assets acquired totaled approximately $162.7 million, resulting in no goodwill. The amount of net identifiable assets acquired in connection with the Voltaren® Gel acquisition includes approximately $162.7 million of identifiable developed technology intangible assets to be amortized over an average life of approximately 7 years. Our measurement period adjustments for the acquisition of Voltaren® Gel were complete as of December 31, 2016.

The operating results of Voltaren® Gel under business combination accounting effective July 1, 2016 are included in the accompanying Consolidated Statements of Operations for the six months ended December 31, 2016. The results included in the accompanying Consolidated Statements of Operations for the year ended December 31, 2015 and for the six months ended June 30, 2016, were accounted for under the previous license and supply agreement, which was not treated as a business combination.

NOTE 6. SEGMENT RESULTS

The reportable business segments in which the Company operates are: (1) U.S. Generic Pharmaceuticals, (2) U.S. Branded Pharmaceuticals and (3) International Pharmaceuticals. These segments reflect the level at which the chief operating decision maker regularly reviews financial information to assess performance and to make decisions about resources to be allocated. Each segment derives revenue from the sales or licensing of its respective products and is discussed in more detail below.

We evaluate segment performance based on each segment's adjusted income from continuing operations before income tax, which we define as loss from continuing operations before income tax before certain upfront and milestone payments to partners; acquisition-related and integration items, including transaction costs, earn-out payments or adjustments, changes in the fair value of contingent consideration and bridge financing costs; cost reduction and integration-related initiatives such as separation benefits, retention payments, other exit costs and certain costs associated with integrating an acquired company's operations; excess costs that will be eliminated pursuant to integration plans; asset impairment charges; amortization of intangible assets; inventory step-up recorded as part of our acquisitions; certain non-cash interest expense; litigation-related and other contingent matters and gains or losses from early termination of debt; foreign currency gains or losses on intercompany financing arrangements; and certain other items.

Certain of the corporate general and administrative expenses incurred by the Company are not attributable to any specific segment. Accordingly, these costs are not allocated to any of the Company's segments and are included in the results below as "Corporate unallocated." The Company's consolidated adjusted income from continuing operations before income tax is equal to the combined results of each of its segments less these unallocated corporate costs.

U.S. Generic Pharmaceuticals

Our U.S. Generic Pharmaceuticals segment focuses on a differentiated product portfolio including high-barrier-to-entry products, first-to-file or first-to-market opportunities, which are difficult to formulate, difficult to manufacture or face complex legal and regulatory challenges. The product offerings of this segment include products in the pain management, urology, central nervous system disorders, immunosuppression, oncology, women's health and cardiovascular disease markets, among others.

U.S. Branded Pharmaceuticals

Our U.S. Branded Pharmaceuticals segment includes a variety of branded prescription products to treat and manage conditions in urology, urologic oncology, endocrinology, pain and orthopedics. The products that are included in this segment include XIAFLEX®, Supprelin® LA, Nascobal®, Aveed®, Testopel®, Lidoderm®, OPANA® ER, Voltaren® Gel, Percocet®, Fortesta® Gel, and Testim®, among others.

International Pharmaceuticals

Our International Pharmaceuticals segment includes a variety of specialty pharmaceutical products for the Canadian, Mexican, South African and world markets. Paladin, based in Canada, has a portfolio of products serving growing therapeutic areas, including ADHD, pain, women's health and oncology. Grupo Farmacéutico Somar, Sociedad Anónima Promotora de Inversión de Capital Variable (Somar), based in Mexico, develops, manufactures and markets high-quality generic, branded generic and over-the-counter products across key market segments including dermatology and anti-infectives. Litha, based in South Africa, is a diversified healthcare group providing services, products and solutions to public and private hospitals, pharmacies, general and specialist practitioners, as well as government healthcare programs.

The following represents selected information for the Company's reportable segments for the years ended December 31 (in thousands):

	2016	2015	2014
Net revenues to external customers:			
U.S. Generic Pharmaceuticals	$ 2,564,613	$ 1,672,416	$ 1,140,821
U.S. Branded Pharmaceuticals	1,166,294	1,284,607	969,437
International Pharmaceuticals (1)	279,367	311,695	270,425
Total net revenues to external customers	$ 4,010,274	$ 3,268,718	$ 2,380,683
Adjusted income from continuing operations before income tax:			
U.S. Generic Pharmaceuticals	$ 1,079,479	$ 741,767	$ 464,029
U.S. Branded Pharmaceuticals	553,806	694,440	529,507
International Pharmaceuticals	84,337	81,789	80,683
Total segment adjusted income from continuing operations before income tax	$ 1,717,622	$ 1,517,996	$ 1,074,219

(1) Revenues generated by our International Pharmaceuticals segment are primarily attributable to Canada, Latin America and South Africa.

There were no material revenues from external customers attributed to an individual country outside of the United States during the years ended December 31, 2016, 2015 or 2014. There were no material tangible long-lived assets in an individual foreign country as of December 31, 2016 or December 31, 2015.

The table below provides reconciliations of our consolidated loss from continuing operations before income tax, which is determined in accordance with U.S. GAAP, to our total segment adjusted income from continuing operations before income tax for the years ended December 31, (in thousands):

	2016	2015	2014
Total consolidated loss from continuing operations before income tax	$ (3,923,856)	$ (1,437,864)	$ 99,875
Interest expense, net	452,679	373,214	227,114
Corporate unallocated costs (1)	189,043	171,242	128,303
Amortization of intangible assets	876,451	561,302	218,712
Inventory step-up and certain manufacturing costs that will be eliminated pursuant to integration plans	125,699	249,464	65,582
Upfront and milestone payments to partners	8,330	16,155	51,774
Separation benefits and other cost reduction initiatives (2)	107,491	125,407	25,760
Impact of Voltaren® Gel generic competition	(7,750)	—	—
Acceleration of Auxilium employee equity awards at closing	—	37,603	—
Certain litigation-related charges, net (3)	23,950	37,082	42,084
Asset impairment charges (4)	3,781,165	1,140,709	22,542
Acquisition-related and integration items (5)	87,601	105,250	77,384
Loss on extinguishment of debt	—	67,484	31,817
Costs associated with unused financing commitments	—	78,352	—
Other-than-temporary impairment of equity investment	—	18,869	—
Foreign currency impact related to the remeasurement of intercompany debt instruments	366	(25,121)	(13,153)
Excise Tax	—	—	54,300
Other, net	(3,547)	(1,152)	42,125
Total segment adjusted income from continuing operations before income tax	$ 1,717,622	$ 1,517,996	$ 1,074,219

(1) Corporate unallocated costs include certain corporate overhead costs, such as headcount and facility expenses and certain other income and expenses.

(2) Separation benefits and other cost reduction initiatives include employee separation costs of $57.9 million, $60.2 million and $14.4 million in 2016, 2015 and 2014, respectively. Other amounts in 2016 primarily consist of charges to increase excess inventory reserves of $24.5 million and other restructuring costs of $25.1 million, comprised primarily of contract termination fees and building costs. Amounts in 2015 primarily consist of $41.2 million of inventory write-offs and $13.3 million of building costs, including a $7.9 million charge recorded upon the cease use date of our Auxilium subsidiary's former corporate headquarters. Amounts in 2014 primarily consisted of employee separation costs and changes in estimates related to certain cost reduction initiative accruals. These amounts were primarily recorded as Cost of revenues and Selling, general and administrative expense in our Consolidated Statements of Operations. See Note 4. Restructuring for discussion of our material restructuring initiatives.

(3) These amounts include charges for Litigation-related and other contingencies, net as further described in Note 14. Commitments and Contingencies.

(4) Asset impairment charges primarily relate to charges to write down goodwill and intangible assets as further described in Note 10. Goodwill and Other Intangibles.

(5) Acquisition-related and integration items include costs directly associated with previous acquisitions of $63.8 million, $170.9 million and $77.4 million in 2016, 2015, and 2014, respectively. In addition, during the year ended December 31, 2016, there was a charge for changes in fair value of contingent consideration of $23.8 million. During the year ended December 31, 2015, acquisition-related and integration costs are net of a benefit due to changes in the fair value of contingent consideration of $65.6 million.

The following represents additional selected financial information for our reportable segments for the years ended December 31, (in thousands):

	2016	2015	2014
Depreciation expense:			
U.S. Generic Pharmaceuticals	$ 79,839	$ 29,193	$ 16,751
U.S. Branded Pharmaceuticals	16,294	19,884	16,209
International Pharmaceuticals	2,557	3,147	1,856
Corporate unallocated	8,168	7,674	7,849
Total depreciation expense	$ 106,858	$ 59,898	$ 42,665

	2016	2015	2014
Amortization expense:			
U.S. Generic Pharmaceuticals	$ 554,581	$ 223,367	$ 95,042
U.S. Branded Pharmaceuticals	261,235	280,954	78,890
International Pharmaceuticals	60,635	56,981	$ 44,780
Total amortization expense	$ 876,451	$ 561,302	$ 218,712

Interest income and expense are considered corporate items and included in Corporate unallocated. Asset information is not reviewed or included within our internal management reporting. Therefore, the Company has not disclosed asset information for each reportable segment.

NOTE 7. FAIR VALUE MEASUREMENTS

Financial Instruments

The financial instruments recorded in our Consolidated Balance Sheets include cash and cash equivalents (including money market funds and time deposits), restricted cash and cash equivalents, accounts receivable, marketable securities, equity and cost method investments, accounts payable and accrued expenses, acquisition-related contingent consideration and debt obligations. Included in cash and cash equivalents and restricted cash and cash equivalents are money market funds representing a type of mutual fund required by law to invest in low-risk securities (for example, U.S. government bonds, U.S. Treasury Bills and commercial paper). Money market funds pay dividends that generally reflect short-term interest rates. Due to their short-term maturity, the carrying amounts of non-restricted and restricted cash and cash equivalents (including money market funds and time deposits), accounts receivable, accounts payable and accrued expenses approximate their fair values.

Fair value guidance establishes a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value. These tiers include:

- Level 1—Quoted prices in active markets for identical assets or liabilities.
- Level 2—Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
- Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

Marketable Securities

Equity securities consist of investments in the stock of publicly traded companies, the values of which are based on quoted market prices and thus represent Level 1 measurements within the above-defined fair value hierarchy. These securities are not held to support current operations and are therefore classified as non-current assets. Equity securities are included in Marketable securities in our Consolidated Balance Sheets at December 31, 2016 and 2015.

At the time of purchase, we classify our marketable securities as either available-for-sale securities or trading securities, depending on our intent at that time. Available-for-sale and trading securities are carried at fair value with unrealized holding gains and losses recorded within other comprehensive income or net income, respectively. The Company reviews unrealized losses associated with available-for-sale securities to determine the classification as a “temporary” or “other-than-temporary” impairment. A temporary impairment results in an unrealized loss being recorded in other comprehensive income. An impairment that is viewed as other-than-temporary is recognized in net income. The Company considers various factors in determining the classification, including the length of time and extent to which the fair value has been less than the Company’s cost basis, the financial condition and near-term prospects of the issuer or investee, and the Company’s ability to hold the investment for a period of time sufficient to allow for any anticipated recovery in market value.

Loans Receivable

We did not have any loans receivable as of December 31, 2016. Our loans receivable at December 31, 2015 related primarily to loans totaling $14.1 million to our joint venture investment owned through our Litha subsidiary. The joint venture investment is further described below. The majority of this amount was secured by certain of the assets of our joint venture. The fair values of these loans were based on anticipated cash flows, which approximated the carrying amount, and were classified in Level 2 measurements in the fair value hierarchy. The Company classified these loans receivable as Assets held for sale as of December 31, 2015 in its Consolidated Balance Sheets.

Equity and Cost Method Investments

As of December 31, 2016, the Company has investments that it accounts for using the equity or cost method of accounting totaling $9.1 million. The Company divested a joint venture investment owned through its Litha subsidiary during the three months ended March 31, 2016. The Company classified this joint venture investment as Assets held for sale as of December 31, 2015 in its Consolidated Balance Sheets.

During the three months ended June 30, 2015, the Company recognized an other-than-temporary impairment of its Litha joint venture investment totaling $18.9 million, reflecting the excess carrying value of this investment over its estimated fair value. To estimate the fair value of this joint venture investment, the Company relied primarily on a market approach based on the terms of the announced divestiture of that investment.

With respect to its other equity or cost method investments, which are included in Other Assets in the Company's Consolidated Balance Sheets at December 31, 2016 and 2015, the Company did not recognize any other-than-temporary impairments. The Company considered various factors, including the operating results of its equity method investments and the lack of an unrealized loss position on its cost method investments.

Acquisition-Related Contingent Consideration

The fair value of contingent consideration liabilities is determined using unobservable inputs; hence these instruments represent Level 3 measurements within the above-defined fair value hierarchy. These inputs include the estimated amount and timing of projected cash flows, the probability of success (achievement of the contingent event) and the risk-adjusted discount rate used to present value the probability-weighted cash flows. Subsequent to the acquisition date, at each reporting period, the contingent consideration liability is remeasured at current fair value with changes recorded in earnings. See Recurring Fair Value Measurements below for additional information on acquisition-related contingent consideration.

Recurring Fair Value Measurements

The Company's financial assets and liabilities measured at fair value on a recurring basis at December 31, 2016 and 2015 were as follows (in thousands):

	Fair Value Measurements at Reporting Date using:			
December 31, 2016	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Assets:				
Money market funds	$ 26,210	$ —	$ —	$ 26,210
Time deposits	—	100,000	—	100,000
Equity securities	2,267	—	—	2,267
Total	$ 28,477	$ 100,000	$ —	$ 128,477
Liabilities:				
Acquisition-related contingent consideration—short-term	$ —	$ —	$ 109,373	$ 109,373
Acquisition-related contingent consideration—long-term	—	—	152,740	152,740
Total	$ —	$ —	$ 262,113	$ 262,113

At December 31, 2016, money market funds include $26.2 million in Qualified Settlement Funds to be disbursed to mesh-related product liability claimants. See Note 14. Commitments and Contingencies for further discussion of our product liability cases.

	Fair Value Measurements at Reporting Date using:			
December 31, 2015	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Assets:				
Money market funds	$ 51,145	$ —	$ —	$ 51,145
Equity securities	3,889	—	—	3,889
Total	$ 55,034	$ —	$ —	$ 55,034
Liabilities:				
Acquisition-related contingent consideration—short-term	$ —	$ —	$ 65,265	$ 65,265
Acquisition-related contingent consideration—long-term	—	—	78,237	78,237
Total	$ —	$ —	$ 143,502	$ 143,502

At December 31, 2015, money market funds include $51.1 million in Qualified Settlement Funds to be disbursed to mesh-related product liability claimants. See Note 14. Commitments and Contingencies for further discussion of our product liability cases.

Fair Value Measurements Using Significant Unobservable Inputs

The following table presents changes to the Company's liability for acquisition-related contingent consideration, which was measured at fair value on a recurring basis using significant unobservable inputs (Level 3) for the years ended December 31 (in thousands):

	2016	2015
Beginning of period	$ 143,502	$ 46,005
Amounts acquired	146,866	214,435
Amounts settled	(55,896)	(37,583)
Transfers (in) and/or out of Level 3	—	—
Measurement period adjustments	3,700	(13,434)
Changes in fair value recorded in earnings	23,823	(65,640)
Effect of currency translation	118	(281)
End of period	$ 262,113	$ 143,502

The fair value measurement of the contingent consideration obligations was determined using risk-adjusted discount rates ranging from 3.0% to 22.0%. Changes in fair value recorded in earnings related to acquisition-related contingent consideration are included in our Consolidated Statements of Operations as Acquisition-related and integration items, and amounts recorded for the short-term and long-term portions of acquisition related contingent consideration are included in Accounts payable and accrued expenses and Other liabilities, respectively, in our Consolidated Balance Sheets.

The following table presents changes to the Company's liability for acquisition-related contingent consideration during the year ended December 31, 2016 by acquisition (in thousands):

	Balance as of December 31, 2015	Acquisitions	Fair Value Adjustments and Accretion	Payments and Other	Balance as of December 31, 2016
Qualitest acquisition	$ 1,137	$ —	$ (1,137)	$ —	$ —
Sumavel acquisition	631	—	(631)	—	—
Auxilium acquisition	26,435	—	8,952	(14,290)	21,097
Lehigh Valley Technologies, Inc. acquisitions	97,003	—	30,676	(31,679)	96,000
Voltaren Gel® acquisition	—	146,055	(18,807)	(8,853)	118,395
Other	18,296	4,511	4,770	(956)	26,621
Total	$ 143,502	$ 150,566	$ 23,823	$ (55,778)	$ 262,113

The following table presents changes to the Company's liability for acquisition-related contingent consideration during the year ended December 31, 2015 by acquisition (in thousands):

	Balance as of December 31, 2014	Acquisitions	Fair Value Adjustments and Accretion	Payments and Other	Balance as of December 31, 2015
Qualitest acquisition	$ 10,305	$ —	$ (4,168)	$ (5,000)	$ 1,137
Sumavel acquisition	4,700	—	(4,069)	—	631
Auxilium acquisition	—	98,179	(62,370)	(9,374)	26,435
Lehigh Valley Technologies, Inc. acquisitions	—	88,200	31,071	(22,268)	97,003
Natesto™	31,000	(4,313)	(26,687)	—	—
Other	—	18,935	583	(1,222)	18,296
Total	$ 46,005	$ 201,001	$ (65,640)	$ (37,864)	$ 143,502

The following is a summary of available-for-sale securities held by the Company at December 31, 2016 and 2015 (in thousands):

	Available-for-sale			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized (Losses)	Fair Value
December 31, 2016				
Money market funds	$ 26,210	$ —	$ —	$ 26,210
Total included in cash and cash equivalents	$ —	$ —	$ —	$ —
Total included in restricted cash and cash equivalents	$ 26,210	$ —	$ —	$ 26,210
Equity securities	$ —	$ —	$ —	$ —
Total other short-term available-for-sale securities	$ —	$ —	$ —	$ —
Equity securities	$ 1,766	$ 501	$ —	$ 2,267
Long-term available-for-sale securities	$ 1,766	$ 501	$ —	$ 2,267

	Available-for-sale			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized (Losses)	Fair Value
December 31, 2015				
Money market funds	$ 51,145	$ —	$ —	$ 51,145
Total included in cash and cash equivalents	$ 3	$ —	$ —	$ 3
Total included in restricted cash and cash equivalents	$ 51,142	$ —	$ —	$ 51,142
Equity securities	$ 24	$ 10	$ —	$ 34
Total other short-term available-for-sale securities	$ 24	$ 10	$ —	$ 34
Equity securities	$ 1,766	$ 2,089	$ —	$ 3,855
Long-term available-for-sale securities	$ 1,766	$ 2,089	$ —	$ 3,855

Nonrecurring Fair Value Measurements

The Company's financial assets and liabilities measured at fair value on a nonrecurring basis as of December 31, 2016 were as follows (in thousands):

	Fair Value Measurements at Reporting Date using:			
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total Expense for the Year Ended December 31, 2016
Assets:				
Certain Astora property, plant and equipment (Note 3)	$ —	$ —	$ —	$ (5,041)
Certain U.S. Generics Pharmaceuticals property, plant and equipment	—	—	11,360	(13,679)
Certain U.S. Branded Pharmaceuticals intangible assets (Note 10)	—	—	4,621	(110,430)
Certain U.S. Generic Pharmaceuticals intangible assets (Note 10)	—	—	872,474	(676,776)
Certain International Pharmaceuticals intangible assets (Note 10)	—	—	139,313	(301,698)
Certain Astora intangible assets (Note 3)	—	—	—	(16,287)
Generics reporting unit goodwill (Note 10)	—	—	3,531,301	(2,342,549)
Paladin reporting unit goodwill (Note 10)	—	—	170,572	(272,578)
Somar reporting unit goodwill (Note 10)	—	—	24,044	(33,000)
Litha reporting unit goodwill (Note 10)	—	—	—	(26,343)
Other asset impairment charges	—	—	—	(4,112)
Total	$ —	$ —	$ 4,753,685	$ (3,802,493)

The Company's financial assets and liabilities measured at fair value on a nonrecurring basis as of December 31, 2015 were as follows (in thousands):

	Fair Value Measurements at Measurement Date using:			
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total Expense for the Year Ended December 31, 2015
Assets:				
Auxilium leasehold improvements (Note 4)	$ —	$ —	$ —	$ (7,000)
Litha equity investment	—	—	10,469	(18,869)
Certain U.S. Branded Pharmaceuticals intangible assets (Note 10)	—	—	48,266	(175,031)
Certain U.S. Generic Pharmaceuticals intangible assets (Note 10)	—	—	38,005	(181,000)
Certain International Pharmaceuticals intangible assets (Note 10)	—	—	3,838	(14,579)
UEO reporting unit goodwill (Note 10)	—	—	240,994	(673,500)
Paladin reporting unit goodwill (Note 10)	—	—	436,919	(85,780)
Total	$ —	$ —	$ 778,491	$ (1,155,759)
Liabilities:				
Minimum Voltaren® Gel royalties due to Novartis	—	—	15,000	—
Total	$ —	$ —	$ 15,000	$ —

NOTE 8. INVENTORIES

Inventories consist of the following at December 31, 2016 and 2015 (in thousands):

	December 31, 2016	December 31, 2015
Raw materials (1)	$ 175,240	$ 210,038
Work-in-process (1)	100,494	177,821
Finished goods (1)	279,937	364,634
Total	$ 555,671	$ 752,493

(1) The components of inventory shown in the table above are net of allowance for obsolescence.

Inventory that is in excess of the amount expected to be sold within one year, which relates primarily to XIAFLEX® inventory, is classified as long-term inventory and is not included in the table above. At December 31, 2016 and 2015, $22.9 million and $24.9 million, respectively, of long-term inventory was included in Other assets in the Consolidated Balance Sheets.

The Company capitalizes inventory costs associated with certain generic products prior to regulatory approval and product launch, when it is reasonably certain, based on management's judgment of future commercial use and net realizable value, that the pre-launch inventories will be saleable. The determination to capitalize is made once the Company (or its third party development partners) has filed an Abbreviated New Drug Application (ANDA) that has been acknowledged by the U.S. Food and Drug Administration (FDA) as containing sufficient information to allow the FDA to conduct its review in an efficient and timely manner and management is reasonably certain that all regulatory and legal requirements will be cleared. This determination is based on the particular facts and circumstances relating to the expected FDA approval of the generic drug product being considered, and accordingly, the time frame within which the determination is made varies from product to product. The Company could be required to write down previously capitalized costs related to pre-launch inventories upon a change in such judgment, or due to a denial or delay of approval by regulatory bodies, or a delay in commercialization, or other potential factors. As of December 31, 2016 and 2015, the Company had approximately $16.8 million and $12.0 million, respectively, in inventories related to generic products that were not yet available to be sold.

NOTE 9. PROPERTY, PLANT AND EQUIPMENT

	Land and Buildings	Machinery and Equipment	Leasehold Improve-ments	Computer Equipment and Software	Assets under Capital Lease	Furniture and Fixtures	Assets under Construc-tion	Total
				(In thousands)				
Cost:								
At January 1, 2016	$ 337,545	$ 186,547	$ 46,478	$ 126,608	$ 9,121	$ 20,762	$ 109,883	$ 836,944
Additions	12,346	64,687	5,549	29,009	716	830	25,273	138,410
Additions due to acquisitions	883	1,085	(73)	766	—	510	1,573	4,744
Disposals/transfers/impairments/ other	(27,298)	(24,388)	(1,448)	(37,656)	(682)	(982)	(7,541)	(99,995)
Effect of currency translation	(939)	(98)	(147)	201	—	(34)	(86)	(1,103)
At December 31, 2016	$ 322,537	$ 227,833	$ 50,359	$ 118,928	$ 9,155	$ 21,086	$ 129,102	$ 879,000
Accumulated Depreciation:								
At January 1, 2016	$ (41,987)	$ (39,512)	$ (11,094)	$ (64,819)	$ (3,458)	$ (2,558)	$ 2,108	$ (161,320)
Additions	(25,394)	(36,522)	(7,640)	(31,885)	(3,015)	(2,402)	—	(106,858)
Disposals/transfers/impairments/ other	16,427	11,650	(2,553)	33,891	700	497	(2,108)	58,504
Effect of currency translation	184	65	24	(23)	—	20	—	270
At December 31, 2016	$ (50,770)	$ (64,319)	$ (21,263)	$ (62,836)	$ (5,773)	$ (4,443)	$ —	$ (209,404)
Net Book Amount:								
At December 31, 2016	$ 271,767	$ 163,514	$ 29,096	$ 56,092	$ 3,382	$ 16,643	$ 129,102	$ 669,596
At December 31, 2015	$ 295,558	$ 147,035	$ 35,384	$ 61,789	$ 5,663	$ 18,204	$ 111,991	$ 675,624

Depreciation expense, including expense related to assets under capital lease, was $106.9 million, $59.9 million and $42.7 million for the years ended December 31, 2016, 2015 and 2014, respectively.

During the years ended December 31, 2016, 2015 and 2014, the Company recorded impairment charges totaling $20.9 million, $10.8 million and $4.3 million, respectively, to write off certain property, plant and equipment amounts that were abandoned or sold. These charges were related to our ongoing efforts to improve our operating efficiency and to consolidate certain locations, including our generics manufacturing and research and development operations. These charges are included in the Asset impairment charges line item in our Consolidated Statement of Operations.

NOTE 10. GOODWILL AND OTHER INTANGIBLES

Goodwill

Changes in the carrying amount of our goodwill for the years ended December 31, 2016 and 2015 were as follows (in thousands):

	Carrying Amount			
	U.S. Generic Pharmaceuticals	U.S. Branded Pharmaceuticals	International Pharmaceuticals	Total
Goodwill as of December 31, 2014	$ 1,071,637	$ 1,131,932	$ 694,206	$ 2,897,775
Goodwill acquired during the period	4,718,297	544,344	7,660	5,270,301
Effect of currency translation	—	—	(109,442)	(109,442)
Goodwill impairment charges	$ —	$ (673,500)	$ (85,780)	$ (759,280)
Goodwill as of December 31, 2015	$ 5,789,934	$ 1,002,776	$ 506,644	$ 7,299,354
Measurement period adjustments	83,916	8,352	1,366	93,634
Effect of currency translation on gross balance	—	—	3,336	3,336
Effect of currency translation on accumulated impairment	—	—	9,421	9,421
Goodwill impairment charges (1)	(2,342,549)	(1,880)	(331,921)	(2,676,350)
Goodwill as of December 31, 2016	$ 3,531,301	$ 1,009,248	$ 188,846	$ 4,729,395

(1) U.S. Branded Pharmaceuticals segment impairment charge is related to goodwill attributed to BELBUCA™.

The carrying amount of goodwill at December 31, 2016 and 2015 is net of the following accumulated impairments:

	Accumulated Impairment			
	U.S. Generic Pharmaceuticals	U.S. Branded Pharmaceuticals	International Pharmaceuticals	Total
Accumulated impairment losses as of December 31, 2015	$ —	$ 673,500	$ 85,780	$ 759,280
Accumulated impairment losses as of December 31, 2016	$ 2,342,549	$ 675,380	$ 408,280	$ 3,426,209

Other Intangible Assets

The following is a summary of other intangible assets held by the Company at December 31, 2016 and 2015 (in thousands):

Cost basis:	**Balance as of December 31, 2015**	**Acquisitions (1)**	**Impairments (2)**	**Other (3)**	**Effect of Currency Translation**	**Balance as of December 31, 2016**
Indefinite-lived intangibles:						
In-process research and development	$ 1,742,880	$ (114,200)	$ (183,375)	$ (323,156)	$ 1,432	$ 1,123,581
Total indefinite-lived intangibles	$ 1,742,880	$ (114,200)	$ (183,375)	$ (323,156)	$ 1,432	$ 1,123,581
Definite-lived intangibles:						
Licenses (weighted average life of 12 years)	$ 676,867	$ —	$ —	$ (211,147)	$ —	$ 465,720
Customer relationships (weighted average life of 15 years)	11,318	—	(3,460)	(7,858)	—	—
Tradenames (weighted average life of 12 years)	7,537	—	—	—	(192)	7,345
Developed technology (weighted average life of 11 years)	6,731,573	152,591	(918,356)	250,037	7,159	6,223,004
Total definite-lived intangibles (weighted average life of 11 years)	$ 7,427,295	$ 152,591	$ (921,816)	$ 31,032	$ 6,967	$ 6,696,069
Total other intangibles	$ 9,170,175	$ 38,391	$(1,105,191)	$ (292,124)	$ 8,399	$ 7,819,650

Accumulated amortization:	**Balance as of December 31, 2015**	**Amortization**	**Impairments**	**Other**	**Effect of Currency Translation**	**Balance as of December 31, 2016**
Definite-lived intangibles:						
Licenses	$ (508,225)	$ (44,522)	$ —	$ 211,147	$ —	$ (341,600)
Customer relationships	(7,858)	—	—	7,858	—	—
Tradenames	(6,544)	(87)	—	—	32	(6,599)
Developed technology	(818,606)	(831,842)	—	36,911	1,383	(1,612,154)
Total definite-lived intangibles	$(1,341,233)	$ (876,451)	$ —	$ 255,916	$ 1,415	$(1,960,353)
Total other intangibles	$(1,341,233)	$ (876,451)	$ —	$ 255,916	$ 1,415	$(1,960,353)
Net other intangibles	$ 7,828,942					$ 5,859,297

(1) Includes intangible assets acquired through the acquisition of Voltaren® Gel and other business combinations in addition to the capitalization of payments relating to XIAFLEX®, offset by measurement period adjustments relating to the Par acquisition.

(2) Includes the impairment of certain intangible assets of our U.S. Generic Pharmaceuticals segment of $676.8 million, our U.S. Branded Pharmaceuticals segment of $110.4 million, our International Pharmaceuticals segment of $301.7 million and the impairment of certain intangible assets in connection with the wind-down of our Astora business, with a net impairment of approximately $16.3 million, which is reported as Discontinued operations, net of tax in the Consolidated Statements of Operations for the year ended December 31, 2016. See Note 3. Discontinued Operations and Held for Sale for further information relating to the Astora wind-down.

(3) Includes the removal of approximately $221.9 million of fully amortized intangible assets relating to expired or terminated licensing agreements in our U.S. Branded Pharmaceuticals segment, including the 2008 Voltaren® Gel agreement, described in Note 11. License and Collaboration Agreements**,** Natesto™, described in Note 5. Acquisitions and STENDRA®, described below. In addition, $10.0 million of fully amortized assets were removed in connection with the wind-down of our Astora business described above. Additionally, certain IPR&D assets of $323.2 million were placed in service and transferred into developed technology, while certain other developed technology assets were removed due to their sale or disposal during the period presented. Additionally, approximately $34.6 million of intangible assets, net, were transferred to Assets held for sale relating to our Litha business and our BELBUCA™ intangible asset. See Note 3. Discontinued Operations and Held for Sale for further information relating to our Assets held for sale.

Amortization expense for the years ended December 31, 2016, 2015 and 2014 totaled $876.5 million, $561.3 million and $218.7 million, respectively. Estimated amortization of intangibles for the five fiscal years subsequent to December 31, 2016 is as follows (in thousands):

2017	$ 777,893
2018	$ 560,762
2019	$ 500,605
2020	$ 473,910
2021	$ 462,153

Changes in the gross carrying amount of our other intangibles for the year ended December 31, 2016 were as follows (in thousands):

	Gross Carrying Amount
December 31, 2015	$ 9,170,175
Capitalization of payments relating to XIAFLEX®	12,008
Voltaren® Gel acquisition	162,700
Other acquisitions	18,183
Sale of certain International Pharmaceuticals intangible assets	(1,959)
Impairment of certain U.S. Branded Pharmaceuticals intangible assets	(110,430)
Impairment of certain U.S. Generic Pharmaceuticals intangible assets	(676,776)
Impairment of certain International Pharmaceuticals intangible assets	(301,698)
Impairment of certain Astora intangible assets	(26,318)
Measurement period adjustments relating to acquisitions closed during 2015 (NOTE 5)	(154,500)
Removal of fully amortized intangible assets relating to expired or terminated licensing agreements	(221,853)
Transfer of intangible assets to Assets held for sale (NOTE 3)	(58,281)
Effect of currency translation	8,399
December 31, 2016	$ 7,819,650

Endo tests goodwill and indefinite-lived intangible assets for impairment annually, or more frequently whenever events or changes in circumstances indicate that the asset might be impaired. Our annual assessment is performed as of October 1st.

As part of the annual and interim goodwill and intangible asset impairment assessments, the Company estimates the fair values of its reporting units using an income approach that utilizes a discounted cash flow model, or, where appropriate, a market approach, or a combination thereof. The discounted cash flow models are dependent upon the Company's estimates of future cash flows and other factors. These estimates of future cash flows involve assumptions concerning (i) future operating performance, including future sales, long-term growth rates, operating margins, variations in the amount and timing of cash flows and the probability of achieving the estimated cash flows and (ii) future economic conditions. These assumptions are based on significant inputs not observable in the market and thus represent Level 3 measurements within the fair value hierarchy. The discount rates applied to the estimated cash flows for the Company's October 1, 2016, 2015 and 2014 annual goodwill and indefinite-lived intangible assets impairment test ranged from 8.5% to 11.0%, from 9.0% to 16.0% and from 8.5% to 15.5%, respectively, depending on the overall risk associated with the particular assets and other market factors. The Company believes the discount rates and other inputs and assumptions are consistent with those that a market participant would use. Any impairment charges resulting from the annual and interim goodwill and intangible asset impairment assessments are recorded to Asset impairments charges on the Company's Consolidated Statements of Operations.

Goodwill

Results of 2016 Goodwill Impairment Testing

As part of its annual goodwill impairment test, the Company concluded that the carrying value of its U.S. Generics, Paladin, Somar and Litha reporting units exceeded their respective estimated fair values and recorded goodwill impairment charges of $2,342.5 million, $272.6 million, $33.0 million and $26.3 million, respectively. The impairments were a result of a combination of factors, including increased buying power from the continued consolidation of the Company's generic business customer base, a significant change in the value derived from the level and frequency of anticipated pricing opportunities in the future and increased levels of competition, particularly in the Company's U.S. Generics reporting unit, due to the entry of new low cost competitors and accelerated FDA ANDA approvals. Consequently, the Company lowered its projected revenue growth rates and profitability levels as part of its fourth quarter company-wide strategic forecasting process.

These external dynamics were exacerbated by an increase in the risk factor included in the discount rate used to calculate the U.S. Generics discounted cash flows from the date of the Company's last interim test. The increase in the discount rate was due to the implied control premium resulting from recent trading values of the Company's stock. On a combined basis, these factors reduced the resulting estimated fair value of the Company's reporting units.

As of December 31, 2016, the remaining balance of goodwill for the Company's U.S. Generics, U.S. Branded, Paladin, Somar and Litha reporting units was $3,531.3 million, $1,009.2 million, $166.4 million, $22.5 million and zero, respectively.

Results of 2015 Goodwill Impairment Testing

Given the results of our intangible asset assessment during the third quarter of 2015 for STENDRA® and certain testosterone replacement therapy (TRT) products, the Company initiated an interim goodwill impairment analysis of our Urology, Endocrinology and Oncology (UEO) reporting unit as of September 30, 2015. As a result of this interim analysis, the Company determined that the net book value of our UEO reporting unit exceeded its estimated fair value. The Company prepared this analysis on a preliminary basis to estimate the amount of a provisional impairment charge as of September 30, 2015, and determined that an impairment was probable and reasonably estimable. The preliminary fair value assessments were performed by the Company taking into consideration a number of factors, based upon the latest available information, including the preliminary results of a hypothetical purchase price allocation. As a result of the preliminary analysis, during the three months ended September 30, 2015, the Company recorded a provisional pre-tax, non-cash impairment charge of $680.0 million in the Consolidated Statements of Operations, representing the difference between the estimated implied fair value of the UEO reporting unit's goodwill and its respective net book value.

The Company completed its UEO goodwill impairment analysis during the fourth quarter of 2015 and reduced the provisional pre-tax, non-cash impairment charge by $6.5 million, for a net, pre-tax, non-cash impairment charge during the year ended December 31, 2015 of $673.5 million. During the fourth quarter of 2015, the Company combined certain resources within the Branded business and management realigned how they review the segment's performance. As a result, we determined that our Pain and UEO reporting units should be combined into one Branded reporting unit for purposes of testing goodwill as of October 1, 2015. In addition to testing the Pain and UEO reporting units separately for goodwill impairment as of October 1, 2015, the Company also tested the combined Branded reporting unit for impairment. The impairment tests did not result in any additional charge for the quarter ended December 31, 2015. As of December 31, 2015, the remaining balance of goodwill for the Branded reporting unit was approximately $1,002.8 million.

As part of the annual goodwill impairment test, the Company recorded a pre-tax, non-cash impairment charge of $85.8 million in the Consolidated Statements of Operations during the fourth quarter of 2015, representing the difference between the estimated implied fair value of the Paladin reporting unit's goodwill and its respective net book value, primarily due to the loss of exclusivity on certain products sold in Canada. As of December 31, 2015, the remaining balance of goodwill for the Paladin reporting unit was approximately $420.4 million.

Intangible Assets

A summary of significant other intangible asset impairment charges by reportable segment for the three years ended December 31, 2016 is included below.

U.S. Generic Pharmaceuticals Segment

During the three months ended March 31, 2016 and June 30, 2016, the Company identified certain market and regulatory conditions impacting the commercial potential of certain indefinite and definite-lived intangible assets in our U.S. Generic Pharmaceuticals segment. Accordingly, we tested these assets for impairment and determined that the carrying value of certain of these assets was no longer fully recoverable, resulting in pre-tax, non-cash asset impairment charges of $29.3 million and $40.0 million during the first and second quarters of 2016, respectively. In addition, during the first quarter of 2016, the Company recognized pre-tax, non-cash asset impairment charges of $100.3 million related to the 2016 U.S. Generic Pharmaceuticals restructuring initiative, which resulted from the discontinuation of certain commercial products and the abandonment of certain IPR&D projects. See Note 4. Restructuring for discussion of our material restructuring initiatives. During the fourth quarter of 2016, the Company recognized pre-tax, non-cash intangible asset impairment charges of $507.2 million in our U.S. Generic Pharmaceuticals resulting from certain market conditions, including price erosion and increased competition, impacting the commercial potential of definite and indefinite-lived intangible assets, including higher than expected erosion rates in the U.S. Generic Pharmaceuticals base business.

During the year ended December 31, 2015, the Company identified certain market and regulatory conditions impacting the commercial potential of certain indefinite and definite-lived intangible assets in our U.S. Generic Pharmaceuticals segment. Accordingly, we tested these assets for impairment and determined that the carrying value of certain of these assets was no longer fully recoverable, resulting in pre-tax, non-cash asset impairment charges of $70.2 million, $72.4 million and $38.4 million, respectively, during the second, third and fourth quarters of 2015.

U.S. Branded Pharmaceuticals Segment

As a result of unfavorable formulary changes and generic competition for sumatriptan, the Company has experienced a downturn in the performance of its Sumavel® DosePro® (Sumavel®) product, a needle-free delivery system for sumatriptan acquired from Zogenix, Inc. in 2014. As a result of this underperformance, the Company concluded during the third quarter of 2016 that an impairment assessment was required to evaluate the recoverability of Sumavel®. After performing this assessment, we recorded a pre-tax, non-cash impairment charge of $72.8 million during the three months ended September 30, 2016, representing a full impairment of the intangible asset. During the fourth quarter of 2016, the Company recognized pre-tax, non-cash intangible asset impairment charges of $37.6 million in our U.S. Branded Pharmaceuticals segment resulting primarily from the termination of our BELBUCA™ product and the return of this product to BDSI.

During the year ended December 31, 2015, a sustained downturn in the short-acting TRT market caused underperformance across several of our TRT products, including Testim® and Natesto™. In addition, we also experienced underperformance with respect to STENDRA®. As a result of this underperformance and a re-alignment of investment priorities towards higher growth and higher value assets such as XIAFLEX®, the Company concluded during the third quarter of 2015 that an impairment assessment was required to evaluate the recoverability of certain definite-lived intangible assets associated with these products. After performing this assessment, we recorded a pre-tax, non-cash impairment charge of approximately $152.0 million during the third quarter of 2015, representing a full impairment of our Natesto™ intangible asset and a partial impairment of our Testim® and STENDRA® intangible assets. As a result of the Company providing written notice to VIVUS Inc. on December 30, 2015 that we were terminating the STENDRA® License Agreement effective June 30, 2016, we recorded an additional pre-tax, non-cash impairment charge of approximately $9.5 million, representing the remaining carrying amount of our STENDRA® intangible asset. Additionally, during the fourth quarter of 2015, we determined that the fair value of certain U.S. Branded Pharmaceuticals IPR&D assets were less than their respective carrying amounts, and we recorded a pre-tax, non-cash impairment charge of $5.5 million representing the full carrying amount of the assets.

As part of the 2014 year-end financial close and reporting process, the Company concluded that an impairment assessment was required to evaluate the recoverability of a definite-lived license intangible asset related to OPANA® ER. After performing these assessments, we recorded a pre-tax, non-cash impairment charge of $12.3 million, representing the remaining carrying amount of this asset.

International Pharmaceuticals Segment

During the three months ended September 30, 2016, the Company determined that it would not pursue commercialization of a product in certain international markets. Accordingly, we tested the definite-lived intangible asset associated with this product for impairment and determined that the carrying value was no longer fully recoverable, resulting in pre-tax, non-cash asset impairment charge of $16.2 million during the third quarter of 2016. During the fourth quarter of 2016, the Company recognized pre-tax, non-cash intangible asset impairment charges of $285.5 million in our International Pharmaceuticals segment resulting from certain market conditions impacting the commercial potential of definite and indefinite-lived intangible assets.

As part of our definite-lived intangible asset impairment review processes for 2015, the Company recorded pre-tax, non-cash impairment charges of approximately $14.6 million in our International Pharmaceuticals segment, representing the difference between the carrying amount of certain intangible assets and their estimated fair value.

NOTE 11. LICENSE AND COLLABORATION AGREEMENTS

Our subsidiaries have entered into certain license, collaboration and discovery agreements with third parties for product development. These agreements require our subsidiaries to share in the development costs of such products and the third parties grant marketing rights to our subsidiaries for such products.

The Company and its subsidiaries are generally required to make upfront payments as well as other payments upon successful completion of regulatory or sales milestones. In addition, these agreements generally require our subsidiaries to pay royalties on sales of the products arising from these agreements. These agreements generally permit termination by our subsidiaries with no significant continuing obligation.

Novartis AG, Novartis Consumer Health, Inc. and Sandoz, Inc.

The Company had exclusive U.S. marketing rights to Voltaren® Gel through June 30, 2016 pursuant to a License and Supply Agreement entered into in 2008 with and among Novartis AG and Novartis Consumer Health, Inc. Effective March 1, 2015, Novartis Consumer Health, Inc. assigned the 2008 Voltaren® Gel Agreement to its affiliate, Sandoz, Inc. On December 11, 2015, the Company, Novartis AG and Sandoz entered into a new License and Supply Agreement, the 2015 Voltaren® Gel Agreement, whereby the Company licensed exclusive U.S. marketing and license rights to commercialize Voltaren® Gel and the exclusive right to launch an authorized generic of Voltaren® Gel, effective July 1, 2016. Pursuant to the 2015 Voltaren® Gel Agreement, the former 2008 Voltaren® Gel Agreement expired on June 30, 2016 in accordance with its terms. The 2015 Voltaren® Gel Agreement became effective on July 1, 2016 and is accounted for as a business combination as of the effective date. Refer to Note 5. Acquisitions for further information. The initial term of the 2015 Voltaren® Gel Agreement will expire on June 30, 2023 with an automatic extension of the term for one year thereafter unless a written notice of non-extension is provided at least six months in advance of termination. Voltaren® Gel royalties incurred during the six months ended June 30, 2016 and the years ended December 31, 2015 and 2014 were $11.9 million, $30.0 million and $30.0 million, respectively. Any payments related to the period after July 1, 2016, the effective date of the 2015 Voltaren® Gel Agreement, are recorded against the contingent consideration liability and changes in fair value are recorded in earnings (Refer to Note 7. Fair Value Measurements for further information).

Under the 2008 Voltaren® Gel Agreement, which was effective through June 30, 2016, the Company agreed (i) to make certain guaranteed minimum annual royalty payments beginning in the fourth year of the 2008 Voltaren® Gel Agreement (2008 Guaranteed Minimum Annual Royalty Payment), (ii) to expend a minimum amount of annual advertising and promotional expenses (A&P Expenditures) on the commercialization of Voltaren® Gel and (iii) to perform a minimum number of face-to-face discussions with physicians and other health care practitioners (Details), each subject to certain limitations set forth in the 2008 Voltaren® Gel Agreement, including the requirement that a third party generic equivalent product not be launched. Under the 2015 Voltaren® Gel Agreement, the Company agreed to make certain guaranteed minimum annual royalty payments (2015 Guaranteed Minimum Annual Royalty Payment) subject to certain limitations set forth in the 2015 Voltaren® Gel Agreement, including the requirement that a third party generic equivalent product is not launched. In March 2016, Amneal Pharmaceuticals LLC (Amneal) launched a generic equivalent of Voltaren® Gel and, therefore, the Company's obligations to make the 2008 Guaranteed Minimum Annual Royalty Payment, to expend A&P Expenditures and to perform Details for the remainder of the term of the 2008 Voltaren® Gel Agreement terminated as of the date of the launch of the generic equivalent product by Amneal. In addition, the Company's obligation to make the 2015 Guaranteed Minimum Annual Royalty Payment also terminated.

Strakan International Limited

In August 2009, we entered into a License and Supply Agreement with Strakan International Limited, a subsidiary of ProStrakan Group plc. (ProStrakan), which was subsequently acquired by Kyowa Hakko Kirin Co. Ltd., for the exclusive right to commercialize Fortesta® Gel in the U.S. (the ProStrakan Agreement). Fortesta® Gel is a patented 2% testosterone transdermal gel for testosterone replacement therapy in male hypogonadism. A metered dose delivery system permits accurate dose adjustment to increase the ability to individualize patient treatment.

The Company received FDA approval for Fortesta® Gel in December 2010, which triggered a one-time approval milestone to ProStrakan for $12.5 million. The approval milestone was recorded as an intangible asset and is being amortized into Cost of revenues on a straight-line basis over its estimated useful life. An additional milestone payment of $5.0 million was triggered during the fourth quarter of 2015 pursuant to the terms of the ProStrakan Agreement. The milestone was recorded as an intangible asset and is being amortized into Cost of revenue. ProStrakan could potentially receive up to approximately $150.0 million in additional payments linked to the achievement of future commercial milestones related to Fortesta® Gel.

ProStrakan will exclusively supply Fortesta® Gel to Endo at a supply price based on a percentage of annual net sales subject to a minimum floor price as defined in the ProStrakan Agreement. Endo may terminate the ProStrakan Agreement upon six months prior written notice at no cost to the Company.

Grünenthal GmbH

In December 2007, we entered into a License, Development and Supply Agreement (the Grünenthal Agreement) with Grünenthal for the exclusive clinical development and commercialization rights in Canada and the U.S. for an oral formulation of OPANA® ER, with INTAC® technology. In December 2011, the FDA approved a formulation of OPANA® ER with INTAC® technology, which is called OPANA® ER.

In the fourth quarter of 2011, the Company capitalized a one-time approval milestone to Grünenthal for $4.9 million. We are amortizing this intangible asset into Cost of revenues over its estimated useful life. In the fourth quarter of 2013, the Company recorded an additional $10.4 million as Cost of Revenues related to a commercial milestone. Additional amounts of approximately €53.9 million (approximately $56.7 million at December 31, 2016) may become due upon achievement of additional future predetermined regulatory and commercial milestones. Endo will also make payments to Grünenthal based on net sales of any such product or products commercialized under this agreement, including the formulation of OPANA® ER approved by the FDA in December 2011.

Effective December 19, 2012, the Company and Grünenthal amended the Grünenthal Agreement whereby the Company became responsible for planning of packaging of finished product and certain other routine packaging quality obligations and Grünenthal agreed to reimburse the Company for the third-party costs incurred related to packaging as well as pay the Company a periodic packaging fee. The amendment also changed certain of the terms with respect to the floor price required to be paid by the Company in consideration for product supplied by Grünenthal. On February 18, 2014, the Company and Grünenthal amended the Grünenthal Agreement to define the responsibilities of the parties for certain additional clinical work to be performed for OPANA® ER.

BioSpecifics Technologies Corp.

The Company, through an affiliate, is party to a development and license agreement, as amended (the BioSpecifics Agreement) with BioSpecifics Technologies Corp. (BioSpecifics). The BioSpecifics Agreement was originally entered into in June 2004 to obtain exclusive worldwide rights to develop, market and sell certain products containing BioSpecifics' enzyme, which we refer to as XIAFLEX®. The Company's licensed rights concern the development and commercialization of products, other than dermal formulations labeled for topical administration, and currently, the Company's licensed rights cover the indications of Dupuytren's Contracture (DC), Dupuytren's Nodules, Peyronie's Disease (PD), Adhesive Capsulitis, cellulite, canine lipomas, Plantar Fibromatosis and Lateral Hip Fat. Auxilium may further expand the BioSpecifics Agreement, at its option, to cover other indications as they are developed by the Company or BioSpecifics.

Under the BioSpecifics Agreement, we are responsible, at our own cost and expense, for developing the formulation and finished dosage form of products and arranging for the clinical supply of products. BioSpecifics is currently conducting exploratory clinical trials evaluating XIAFLEX® as a treatment for a number of conditions, including lipomas in humans and uterine fibroids. The Company has the option to license development and marketing rights to these indications based on a full analysis of the data from the clinical trials, which would transfer responsibility for the future development costs to the Company and trigger opt-in payments and potential future milestone and royalty payments to BioSpecifics.

The BioSpecifics Agreement extends, on a country-by-country and product-by-product basis, for the longer of the patent life, the expiration of any regulatory exclusivity period or twelve years from the effective date. Either party may terminate the BioSpecifics Agreement as a result of the other party's breach or bankruptcy. We may terminate the BioSpecifics Agreement with 90 days' written notice.

We must pay BioSpecifics on a country-by-country and product-by-product basis a specified percentage within a range of 5% to 15% of net sales for products covered by the BioSpecifics Agreement. This royalty applies to net sales by the Company or its sublicensees, including Asahi Kasei Pharma Corporation (Asahi Kasei) and Swedish Orphan Biovitrum AB (Sobi). We are also obligated to pay a percentage of any future regulatory or commercial milestone payments received from such sublicensees. In addition, the Company and its affiliates pay BioSpecifics an amount equal to a specified mark-up on certain cost of goods related to supply of XIAFLEX® (which mark-up is capped at a specified percentage within the range of 5% to 15% of the cost of goods of XIAFLEX®) for products sold by the Company and its affiliates.

XIAFLEX® Out-license Agreements

We are party to certain out-licensing agreements with Asahi Kasei and Sobi (the XIAFLEX® Sublicensees), pursuant to which the XIAFLEX® Sublicensees have marketing, development and/or commercial rights for XIAFLEX® and XIAPEX® (the European Union trade name for XIAFLEX®) in a variety of countries outside of the U.S. The applicable royalty percentages related to these agreements increase from tier to tier upon the achievement of a specified threshold of aggregate annual net sales of the licensed product and may decrease if a generic is marketed in the applicable territory. Pursuant to each of these out-licensing agreements, the Company will be responsible for all clinical and commercial drug manufacturing and supply and, in certain cases, for development costs.

The Japanese Ministry of Health, Labour and Welfare approved XIAFLEX® for manufacturing and marketing in Japan on July 3, 2015 for the indication of Dupuytren's Contracture with a palpable cord and was subsequently listed on the Japanese National Health Insurance drug price standard on August 31, 2015. The Company's partner, Asahi Kasei Pharma Corporation, commercially launched the product in Japan in September 2015. Under the terms of the Asahi Kasei agreement, Endo received a $20.0 million gross milestone payment in October 2015 as a result of the first commercial sale of XIAFLEX® in Japan. The Company is recognizing the $20.0 million of milestone revenue on a straight-line basis over the remaining term of the license agreement.

We were party to an out-licensing agreement with Actelion Pharmaceuticals Ltd. (Actelion) to develop, supply and commercialize XIAFLEX® in Canada and Australia. On July 1, 2016, the parties mutually agreed to terminate the collaboration for Canada and agreed upon certain transition services to be provided by Actelion until approval of the transfer of the drug identification number by the regulatory authority in Canada to the Company. For Australia, the collaboration agreement remained in effect until a new agreement was finalized. In consideration for the rights returned to the Company by Actelion, Endo made a cash payment of $5.5 million in July 2016 to terminate the agreement and the transaction was treated as an asset acquisition. For Australia, we entered into a new out-licensing agreement with Actelion Pharmaceuticals Australia PTY in December 2016, pursuant to which Actelion obtained marketing and commercial rights for XIAFLEX® in Australia and New Zealand.

BioDelivery Sciences International, Inc.

The Company was party to a worldwide license and development agreement with BDSI for the exclusive rights to develop and commercialize BELBUCA™ (buprenorphine HCl) Buccal Film. The NDA for BELBUCA™ was submitted in December 2014 and accepted by the FDA in February 2015. On October 23, 2015, the FDA approved BELBUCA™ for the management of severe pain and BELBUCA™ became commercially available in the U.S. during February 2016. As a result of the FDA approval of BELBUCA™, the Company capitalized a one-time approval milestone payment to BioDelivery for $44.0 million in the fourth quarter of 2015.

In December 2016, Endo announced that it was returning BELBUCA™ to BDSI and this transaction closed on January 6, 2017. As a result of this announcement, the Company incurred restructuring and impairment charges during the fourth quarter of 2016 (Refer to Note 4. Restructuring for further information).

NOTE 12. ACCOUNTS PAYABLE AND ACCRUED EXPENSES

Accounts payable and accrued expenses are comprised of the following for each of the years ended December 31, (in thousands):

	December 31, 2016	December 31, 2015
Trade accounts payable	$ 126,712	$ 146,450
Returns and allowances	332,455	356,932
Rebates	227,706	331,580
Chargebacks	33,092	18,899
Accrued interest	128,254	132,035
Accrued payroll and related benefits	115,224	120,787
Accrued royalties and other distribution partner payables	191,433	138,622
Acquisition-related contingent consideration—short-term	109,373	65,265
Other	189,835	199,545
Total	$ 1,454,084	$ 1,510,115

NOTE 13. DEBT

The following table presents the carrying amounts of the Company's total indebtedness at December 31, 2016 and 2015 (in thousands):

		December 31, 2016		December 31, 2015	
	Effective Interest Rate	Principal Amount	Carrying Amount	Principal Amount	Carrying Amount
7.25% Senior Notes due 2022	7.91%	$ 400,000	$ 389,150	$ 400,000	$ 387,465
5.75% Senior Notes due 2022	6.04%	700,000	691,339	700,000	689,912
5.375% Senior Notes due 2023	5.62%	750,000	740,733	750,000	739,489
6.00% Senior Notes due 2023	6.28%	1,635,000	1,610,280	1,635,000	1,607,306
6.00% Senior Notes due 2025	6.27%	1,200,000	1,179,203	1,200,000	1,177,287
Term Loan A Facility Due 2019	2.95%	941,875	932,824	1,017,500	1,003,669
Term Loan B Facility Due 2022	4.06%	2,772,000	2,728,919	2,800,000	2,750,100
Revolving Credit Facility	—	—	—	225,000	225,000
Other debt	1.50%	55	55	134	134
Total long-term debt, net		$ 8,398,930	$ 8,272,503	$ 8,727,634	$ 8,580,362
Less current portion, net		131,125	131,125	328,705	328,705
Total long-term debt, less current portion, net		$ 8,267,805	$ 8,141,378	$ 8,398,929	$ 8,251,657

The senior notes are unsecured and subordinated in right of payment to our credit facility.

The total fair value of the Company's total long-term debt at December 31, 2016 and 2015, was $7.8 billion and $8.6 billion, respectively.

The fair value of the Company's long-term debt is estimated using the quoted market prices for the same or similar debt issuances. Based on this valuation methodology, we determined these debt instruments represent Level 2 measurements within the fair value hierarchy.

Pursuant to the terms of the credit agreements and indentures governing our various debt instruments, certain subsidiaries of Endo International plc, known as restricted subsidiaries, are subject to various restrictions limiting their ability to transfer funds to Endo International plc. As of December 31, 2016, net assets of our restricted subsidiaries comprised more than 95% of the Company's consolidated total net assets, after intercompany eliminations.

Credit Facility

Upon closing of the Paladin acquisition on February 28, 2014, certain subsidiaries of the Company entered into a credit agreement (the 2014 Credit Agreement) with Deutsche Bank AG New York Branch, as administrative agent, collateral agent, issuing bank and swingline lender and certain other lenders, which provided for a five-year senior secured term loan A facility in an aggregate principal amount of $1.1 billion (the 2014 Term Loan A Facility), a seven-year senior secured term loan B facility in an aggregate principal amount of $425.0 million (the 2014 Term Loan B Facility), and a five-year revolving credit facility in an aggregate principal amount of $750.0 million (the 2014 Revolving Credit Facility). The 2014 Credit Agreement was entered into to refinance certain of our existing indebtedness, including our prior credit facility, and for general corporate purposes, including acquisitions.

In June 2015, certain subsidiaries of the Company entered into Amendment No. 1 to Credit Agreement (Amendment No. 1), with Deutsche Bank and certain other lenders, pursuant to which we amended the 2014 Credit Agreement to, among other things, (i) permit the acquisition by Endo Designated Activity Company, formerly known as Endo Limited (Endo DAC) or its affiliates of Par and (ii) permit an incremental revolving facility in an aggregate principal amount of $250.0 million (the Incremental Revolving Facility), and one or more incremental term B loan facilities in an aggregate principal amount up to $5.0 billion, in each case, in connection with the Par acquisition. Loans incurred under the 2014 Term Loan A Facility, the 2014 Term Loan B Facility and the Incremental Term Loan B Facility (as defined below) are recorded net of the unamortized portion of the original purchaser's discount. This discount is amortized to interest expense over the term of the Amended Credit Agreement (as defined below).

Simultaneously with the closing of the Par acquisition, on September 25, 2015, we entered into the Incremental Amendment to Credit Agreement, with Deutsche Bank and certain other lenders (the Incremental Amendment), pursuant to which we (i) increased our revolving capacity to $1.0 billion pursuant to the Incremental Revolving Facility (ii) incurred an incremental term loan B facility (the Incremental Term Loan B Facility) in an aggregate principal amount of $2.8 billion (together with the Incremental Revolving Facility, the Par Incremental Facilities) and (iii) repaid in full the amount outstanding under the 2014 Term Loan B Facility. We refer to the 2014 Credit Agreement, as amended by Amendment No. 1 and the Incremental Amendment, and as further amended, restated, supplemented or otherwise modified, as the Amended Credit Agreement.

Borrowings under our revolving credit facilities and our Term Loan A facility bear interest at a rate equal to an applicable margin plus London Interbank Offered Rate (LIBOR). In addition, borrowings under our Term Loan B facility bear interest at a rate equal to an applicable margin plus LIBOR, subject to a LIBOR floor of 0.75%.

We have $997.4 million of remaining credit available through the revolving credit facilities as of December 31, 2016.

In January 2017, certain subsidiaries of the Company entered into Amendment No. 2 to the Credit Agreement (Amendment No. 2), with Deutsche Bank and certain other lenders, pursuant to which we amended the 2014 Credit Agreement to clarify certain definitions of Excess Cash Flow and Excess Cash Payment Date.

In addition to the Incremental Revolving Facility and the Incremental Term Loan B Facility, the Amended Credit Agreement also permits us to obtain (i) incremental revolving and/or term loan commitments of $1.0 billion plus (ii) an unlimited amount of incremental revolving and/or term loan commitments if the Secured Leverage Ratio (as defined in the Amended Credit Agreement), at the time of incurrence of such incremental commitments and after giving effect thereto on a pro forma basis, is less than or equal to 3.00 to 1.00 (assuming for purposes of such calculation that any incremental revolving commitments incurred at the time of such calculation are fully drawn and without netting cash proceeds of any incremental facilities or, in lieu of loans under any incremental facilities, pari passu or junior secured or unsecured notes or junior secured term loans) from one or more of the existing lenders (or their affiliates) or other lenders (with the consent of the administrative agent) and, subject to compliance by the borrowers with the documentation and other requirements under the Amended Credit Agreement, without the need for consent from any of the existing lenders under the Amended Credit Agreement (other than those existing lenders that have agreed to provide such incremental facilities).

The Amended Credit Agreement contains affirmative and negative covenants that the Company believes to be usual and customary for a senior secured credit facility. The negative covenants include, among other things, limitations on capital expenditures, asset sales, mergers and acquisitions, indebtedness, liens, dividends, investments and transactions with the Company's affiliates. As of December 31, 2016, we were in compliance with all such covenants. In addition, on an annual basis commencing with the year ended December 31, 2016, the Company is required to perform a calculation of excess cash flow (as defined in the Amended Credit Agreement), which may result in an accelerated payment of the principal amount. The excess cash flow calculation for the year ended December 31, 2016 did not result in an excess payment.

Maturities

Maturities on long-term debt for each of the next five years as of December 31, 2016 are as follows (in thousands):

	December 31, 2016
2017	$ 131,125
2018	$ 179,250
2019	$ 715,500
2020	$ 28,000
2021	$ 28,000

NOTE 14. COMMITMENTS AND CONTINGENCIES

Manufacturing, Supply and Other Service Agreements

Our subsidiaries contract with various third party manufacturers, suppliers and service providers to provide raw materials used in our subsidiaries' products and semi-finished and finished goods, as well as certain packaging, labeling services, customer service support, warehouse and distribution services. These contracts include agreements with Novartis, Teikoku, Noramco, Grünenthal and JHS, among others. If, for any reason, we are unable to obtain sufficient quantities of any of the finished goods or raw materials or components required for our products or services needed to conduct our business, it could have an adverse effect on our business, financial condition, results of operations and cash flows.

In addition to the manufacturing and supply agreements described above, we have agreements with various companies for clinical development services. Although we have no reason to believe that the parties to these agreements will not meet their obligations, failure by any of these third parties to honor their contractual obligations may have a material adverse effect on our business, financial condition, results of operations and cash flows.

Novartis License and Supply Agreement

See Note 11. License and Collaboration Agreements for a description of the Company's commitments and contingencies under the 2008 and 2015 Voltaren® Gel Agreements.

Teikoku Seiyaku Co., Ltd.

Under the terms of the Company's agreement (the Teikoku Agreement) with Teikoku, a Japanese manufacturer, Teikoku manufactures Lidoderm® at its two Japanese facilities, located on adjacent properties, for commercial sale by the Company in the U.S. The Company also has an option to extend the supply area to other territories. The Company amended the Teikoku Agreement on April 24, 2007, January 6, 2010, November 1, 2010 and February 25, 2015 (together, the Amended Agreement). The material components of the Amended Agreement are as follows:

- The Company agreed to issue firm purchase orders for a minimum number of patches per year through 2017, representing the noncancelable portion of the Amended Agreement. There is a lower minimum purchase requirement in effect subsequent to 2017. The Company has met its minimum purchase requirement for 2016.
- Teikoku agreed to fix the supply price of Lidoderm® for a period of time after which the price will be adjusted at future certain dates based on a price index defined in the Amended Agreement.
- Following cessation of the Company's obligation to pay royalties to Hind Healthcare Inc. (Hind) under the Sole and Exclusive License Agreement dated as of November 23, 1998, as amended, between Hind and the Company (the Hind Agreement), the Company began to pay to Teikoku annual royalties based on annual net sales of Lidoderm®.
- The Amended Agreement will not expire until December 31, 2021, unless terminated in accordance with its terms. After December 31, 2021, the Amended Agreement shall be automatically renewed on the first day of January each year unless terminated in accordance with its terms.
- Either party may terminate the Amended Agreement, following a 45-day cure period, in the event that the Company fails to issue firm purchase orders for the annual minimum quantity for each year after 2017.
- The Company is the exclusive licensee for any authorized generic for Lidoderm® until the later of August 15, 2017 or the date of the first commercial sale of the second non-Teikoku generic version of Lidoderm®.

Amounts purchased pursuant to the Teikoku Agreement, as amended, were $37.5 million, $48.3 million and $45.1 million for the years ended December 31, 2016, 2015 and 2014, respectively.

On November 23, 2011, the Company's obligation to pay royalties to Hind under the Hind Agreement ceased. Accordingly, on November 23, 2011, pursuant to the terms of the Teikoku Agreement, the Company began to incur royalties to Teikoku based on annual net sales of Lidoderm®. The royalty rate is 6% of branded Lidoderm® net sales. Additionally, in May 2014, we launched an authorized generic lidocaine patch 5% (referred to as Lidoderm® authorized generic) and began to incur royalties on net sales of the authorized generic. During the years ended December 31, 2016, 2015 and 2014, we recorded $16.5 million, $17.8 million and $19.1 million for these royalties to Teikoku, respectively. These amounts were included in our Consolidated Statements of Operations as Cost of revenues. At December 31, 2016, $12.2 million is recorded as a royalty payable and included in Accounts payable and accrued expenses in the accompanying Consolidated Balance Sheets.

Noramco, Inc.

Under the terms of our agreement (the Noramco Agreement) with Noramco, Noramco manufactures and supplies to us certain narcotic active drug substances, in bulk form, for inclusion in our controlled substance pharmaceutical products. There are no minimum annual purchase commitments under the Noramco Agreement; however, we are required to purchase from Noramco a fixed percentage of our annual requirements of each narcotic active drug substance covered by the Noramco Agreement. The purchase price for these substances is equal to a fixed amount, adjusted on an annual basis based on volume. In July 2016, the Company sent a notice of non-renewal to Noramco which will result in the agreement being terminated as of April 2017. The Company is not subject to any penalties as a result of this termination.

Pursuant to the terms of the Noramco Agreement, the Company made payments to Noramco during the years ended December 31, 2016, 2015 and 2014 totaling $48.8 million, $42.0 million and $76.0 million, respectively. These payments are recorded in Cost of revenues in our Consolidated Statements of Operations.

Grünenthal GmbH

Pursuant to the terms of the Company's December 2007 License, Development and Supply Agreement with Grünenthal (the Grünenthal Agreement), Grünenthal agreed to manufacture and supply to the Company a formulation of OPANA® ER with INTAC® technology based on a supply price equal to a certain percentage of net sales of OPANA® ER, subject to a floor price. In the first quarter of 2012, we began production of the formulation of OPANA® ER with INTAC® technology at a third party manufacturing facility managed by Grünenthal. The Grünenthal Agreement will expire on the later of (i) the 15th anniversary of the date of first commercial sale of the product, (ii) the expiration of the last issued patent in the territory claiming or covering products or (iii) the expiration of exclusivity granted by the FDA for the last product developed under the Grünenthal Agreement. Either party may terminate the Grünenthal Agreement in certain circumstances upon providing sufficient written notice to the other party. Effective December 19, 2012, the Company and Grünenthal amended the Grünenthal Agreement whereby the Company became responsible for the planning of packaging of finished product and certain other routine packaging quality obligations and Grünenthal agreed to reimburse the Company for the third-party costs incurred related to packaging as well as pay the Company a periodic packaging fee. The amendment also changed certain of the terms with respect to the floor price required to be paid by the Company in consideration for product supplied by Grünenthal. On February 18, 2014, the Company and Grünenthal amended the Grünenthal Agreement to define the responsibilities of the parties for certain additional clinical work to be performed for OPANA® ER.

The Company's supply payments made to Grünenthal pursuant to the Grünenthal Agreement are recorded in Cost of revenues in our Consolidated Statements of Operations and must be paid in U.S. dollars within 45 days after each calendar quarter. We incurred $25.5 million, $28.5 million and $32.9 million for the years ended December 31, 2016, 2015 and 2014, respectively.

Jubilant HollisterStier Laboratories LLC (JHS)

During the second quarter of 2016, we entered into a new agreement with JHS (JHS Agreement). Pursuant to the JHS Agreement, JHS fills and lyophilizes the XIAFLEX® bulk drug substance, which is manufactured by the Company, and produces sterile diluent. The initial term of the JHS agreement is three years, with automatic renewal provisions thereafter for subsequent one-year terms, unless or until either party provides notification prior to expiration of the then current term of the contract. The Company is required to purchase a specified percentage of its total forecasted volume of XIAFLEX® from JHS each year, unless JHS is unable to supply XIAFLEX® within the timeframe established under such forecasts. Amounts purchased pursuant to the JHS Agreement were $6.3 million for the year ended December 31, 2016. Amounts purchased in 2015 and 2014 were not material.

Milestones and Royalties

See Note 11. License and Collaboration Agreements for a description of future milestone and royalty commitments pursuant to our acquisitions, license and collaboration agreements.

Legal Proceedings and Investigations

We and certain of our subsidiaries are involved in various claims, legal proceedings, internal and governmental investigations (collectively, proceedings) that arise from time to time in the ordinary course of our business, including, among others, those relating to product liability, intellectual property, regulatory compliance and commercial matters. While we cannot predict the outcome of these proceedings and we intend to defend vigorously our position, an adverse outcome in any of these proceedings could have a material adverse effect on our current and future financial position, results of operations and cash flows. Matters that are not being disclosed herein are, in the opinion of our management, immaterial both individually and in the aggregate with respect to our financial position, results of operations and cash flows. If and when such matters, in the opinion of our management, become material either individually or in the aggregate, we will disclose such matters.

As of December 31, 2016, our reserve for loss contingencies totaled $1,015.9 million, of which $963.1 million relates to our product liability accrual for vaginal mesh cases. Although we believe there is a reasonable possibility that a loss in excess of the amount recognized exists, we are unable to estimate the possible loss or range of loss in excess of the amount recognized at this time.

Product Liability

We and certain of our subsidiaries have been named as defendants in numerous lawsuits in various U.S. federal and state courts, as well as in Canada and other countries, alleging personal injury resulting from the use of certain products of our subsidiaries. These matters are described below in more detail.

We believe that certain settlements and judgments, as well as legal defense costs, relating to certain product liability matters are or may be covered in whole or in part under our product liability insurance policies with a number of insurance carriers. In certain circumstances, insurance carriers reserve their rights to contest or deny coverage. We intend to contest vigorously any and all such disputes with our insurance carriers and to enforce our rights under the terms of our insurance policies. Accordingly, we will record receivables with respect to amounts due under these policies only when the resolution of any dispute has been reached and realization of the potential claim for recovery is considered probable. Amounts recovered under our product liability insurance policies will likely be less than the stated coverage limits and may not be adequate to cover damages and/or costs relating to claims. In addition, there is no guarantee that insurers will pay claims or that coverage will otherwise be available.

Vaginal Mesh Cases. In October 2008, the FDA issued a Public Health Notification (October 2008 Public Health Notification) regarding potential complications associated with transvaginal placement of surgical mesh to treat pelvic organ prolapse (POP) and stress urinary incontinence (SUI). The notification provided recommendations and encouraged physicians to seek specialized training in mesh procedures, to advise their patients about the risks associated with these procedures and to be diligent in diagnosing and reporting complications.

In July 2011, the FDA issued an update to the October 2008 Public Health Notification regarding mesh to further advise the public and the medical community of the potential complications associated with transvaginal placement of surgical mesh to treat POP and SUI. In the July 2011 update, the FDA stated that adverse events are not rare. Furthermore, the FDA questioned the relative effectiveness of transvaginal mesh as a treatment for POP as compared to non-mesh surgical repair. The July 2011 notification continued to encourage physicians to seek specialized training in mesh procedures, to consider and to advise their patients about the risks associated with these procedures and to be diligent in diagnosing and reporting complications. In January 2016, the FDA issued a statement reclassifying surgical mesh for transvaginal POP repair from Class II to Class III. Surgical mesh for SUI repair remains a Class II device.

In January 2012, the FDA ordered manufacturers of transvaginal surgical mesh used for POP and of single incision mini-slings for urinary incontinence, such as our AMS subsidiary, to conduct post-market safety studies and to monitor adverse event rates relating to the use of these products. The FDA agreed to place 16 AMS study orders on hold for a variety of reasons. AMS commenced three of these post-market study orders. However, due to the wind-down of the Astora business in 2016, AMS notified the FDA of its termination of these studies and the FDA has confirmed closure of those studies.

Since 2008, we and certain of our subsidiaries, including AMS and/or Astora, have been named as defendants in multiple lawsuits in the U.S. in various state and federal courts, including a multidistrict litigation (MDL) in the U.S. District Court for the Southern District of West Virginia (MDL No. 2325), in Canada, where various class action and individual complaints are pending, and in other countries alleging personal injury resulting from the use of transvaginal surgical mesh products designed to treat POP and SUI. Plaintiffs in these suits allege various personal injuries including chronic pain, incontinence and inability to control bowel function and permanent deformities, and seek compensatory and punitive damages, where available.

We and certain plaintiffs' counsel representing mesh-related product liability claimants have entered into various Master Settlement Agreements (MSAs) and other settlement agreements regarding settling up to approximately 49,000 filed and unfiled mesh claims handled or controlled by the participating counsel for an aggregate total of approximately $2.8 billion. These MSAs, which were executed at various times since June 2013, were entered into solely by way of compromise and settlement and are not in any way an admission of liability or fault by us or any of our subsidiaries. All MSAs are subject to a process that includes guidelines and procedures for administering the settlements and the release of funds. In certain cases, the MSAs provide for the creation of QSFs into which funds may be deposited pursuant to certain schedules set forth in those agreements. All MSAs have participation thresholds regarding the claims represented by each law firm party to the MSA. If certain participation thresholds are not met, then we will have the right to terminate the settlement with that law firm. In addition, one agreement gives us a unilateral right of approval regarding which claims may be eligible to participate under that settlement. To the extent fewer claims than are authorized under an agreement participate, the total settlement payment under that agreement will be reduced by an agreed-upon amount for each such non-participating claim. Funds deposited in QSFs are included in restricted cash and cash equivalents in the Consolidated Balance Sheets.

Distribution of funds to any individual claimant is conditioned upon the receipt of documentation substantiating the validity of the claim, a full release and a dismissal of the entire action or claim as to all AMS parties and affiliates. Prior to receiving funds, an individual claimant is required to represent and warrant that liens, assignment rights or other claims identified in the claims administration process have been or will be satisfied by the individual claimant. Confidentiality provisions apply to the amount of settlement awards to participating claimants, the claims evaluation process and procedures used in conjunction with award distributions, and the negotiations leading to the settlements.

We expect that valid claims under the MSAs will continue to be settled. However, we intend to vigorously contest pending and future claims that are invalid, for which settlement is unable to be reached or that are in excess of the maximum claim amounts under the applicable MSAs. In addition to claims covered by MSAs, we are currently aware of approximately 9,700 claims that have been filed, asserted or that we believe are likely to be asserted that have not been accrued for because we lack sufficient information to determine whether any potential loss is probable. In addition, there may be other claims asserted in the future. It is currently not possible to estimate the number or validity of any such future claims.

In order to evaluate whether a claim is probable of a loss, we must obtain and evaluate certain information pertaining to each individual claim, including but not limited to the following items: the name and social security number of the plaintiff, evidence of an AMS implant, the date of implant, the date the claim was first asserted to AMS and medical records establishing the injury alleged. Without access to and review of at least this information and the opportunity to evaluate it, we are not in a position to determine a claim's validity or whether a loss is probable. Further, the timing and extent to which we obtain this information and our evaluation thereof, is often impacted by items outside of our control, including, without limitation, the normal cadence of the litigation process and the provision of claim information to us by plaintiff's counsel.

We will continue to monitor the situation, and, if appropriate, we will make further adjustments to our product liability accrual based on new information. We intend to continue exploring all options as appropriate in our best interests, and depending on developments, there is a possibility that we will suffer adverse decisions or verdicts of substantial amounts, or that we will enter into additional monetary settlements. Any unfavorable outcomes as a result of such litigation or settlements with respect to any asserted or unasserted claims could have a material adverse effect on our business, financial condition, results of operations and cash flows.

As of the date of this report, we believe that the current product liability accrual includes all known claims for which liability is probable.

The following table presents the changes in the vaginal mesh QSFs and product liability accrual balance during the year ended December 31, 2016 (in thousands):

	Qualified Settlement Funds	Product Liability Accrual
Balance as of December 31, 2015	$ 578,970	$ 2,086,176
Additional charges	—	19,505
Cash contributions to Qualified Settlement Funds	831,131	—
Cash distributions to settle disputes from Qualified Settlement Funds	(1,134,734)	(1,134,734)
Cash distributions to settle disputes	—	(7,830)
Other	620	—
Balance as of December 31, 2016	$ 275,987	$ 963,117

The entire portion of the $963.1 million product liability accrual amount shown above is classified in the Current portion of the legal settlement accrual in the December 31, 2016 Consolidated Balance Sheets. Charges related to vaginal mesh product liability for all periods presented are reported in Discontinued operations, net of tax in our Consolidated Statements of Operations.

We expect to fund the payments under all current settlement agreements over the course of 2017. As the funds are disbursed out of the QSFs from time to time, the product liability accrual will be reduced accordingly with a corresponding reduction to restricted cash and cash equivalents. In addition, we may pay cash distributions to settle disputes separate from the QSFs, which will also decrease the product liability accrual and decrease cash and cash equivalents.

We were contacted in October 2012 regarding a civil investigation initiated by a number of state attorneys general into mesh products, including transvaginal surgical mesh products designed to treat POP and SUI. In November 2013, we received a subpoena relating to this investigation from the state of California, and we have subsequently received additional subpoenas from other states. We are currently cooperating with this investigation. At this time, we cannot predict or determine the outcome of this investigation or reasonably estimate the amount or range of amounts of fines or penalties, if any, that might result from a settlement or an adverse outcome from this investigation.

Testosterone Cases. We and certain of our subsidiaries, including Endo Pharmaceuticals Inc. (EPI) and Auxilium Pharmaceuticals, Inc. (subsequently converted to Auxilium Pharmaceuticals, LLC and hereinafter referred to as Auxilium), along with other pharmaceutical manufacturers, have been named as defendants in lawsuits alleging personal injury resulting from the use of prescription medications containing testosterone, including Fortesta® Gel, Delatestryl®, Testim®, TESTOPEL®, Aveed® and Striant®. Plaintiffs in these suits allege various personal injuries, including pulmonary embolism, stroke and other vascular and/or cardiac injuries and seek compensatory and/or punitive damages, where available. In June 2014, an MDL was formed to include claims involving all testosterone replacement therapies filed against EPI, Auxilium, and other manufacturers of such products, and certain transferable cases pending in federal court were coordinated in the U.S. District Court for the Northern District of Illinois as part of MDL No. 2545. In addition, litigation has also been filed against EPI in the Court of Common Pleas for Philadelphia County and in certain other state courts. Litigation similar to that described above may also be brought by other plaintiffs in various jurisdictions, and we expect cases brought in federal court to be transferred to the U.S. District Court for the Northern District of Illinois as tag-along actions to MDL No. 2545. However, we cannot predict the timing or outcome of any such litigation, or whether any such additional litigation will be brought against us. We intend to contest the litigation vigorously and to explore all options as appropriate in our best interests. As of February 21, 2017, approximately 1,200 cases are currently pending against us; some of which may have been filed on behalf of multiple plaintiffs. The first MDL trial against Auxilium involving Testim® is set to begin in November 2017, the first trial against Auxilium in the Court of Common Pleas for Philadelphia County involving Testim® is set to begin in January 2018; and the first MDL trial against EPI involving Fortesta® is set to begin in September 2018.

In November 2015, the U.S. District Court for the Northern District of Illinois entered an order granting defendants' motion to dismiss claims involving certain testosterone products that were approved pursuant to ANDAs, including TESTOPEL®. Plaintiffs filed a motion for reconsideration and clarification of this order. In March 2016, the District Court granted plaintiffs' motion in part and entered an order permitting certain claims to go forward to the extent they are based on allegations of fraudulent off-label marketing.

In November 2014, a civil class action complaint was filed in the U.S. District for the Northern District of Illinois against EPI, Auxilium, and various other manufacturers of testosterone products on behalf of a proposed class of health insurance companies and other third party payors that had paid for certain testosterone products, alleging that the marketing efforts of EPI, Auxilium, and other defendant manufacturers with respect to certain testosterone products constituted racketeering activity in violation of 18 U.S.C. §1962 (c), and other civil Racketeer Influenced and Corrupt Organizations Act claims. Further, the complaint alleged that EPI, Auxilium, and other defendant manufacturers violated various state consumer protection laws through their marketing of certain testosterone products and raised other state law claims. In March 2015, defendants filed a motion to dismiss the complaint and plaintiffs responded by filing amended complaints, which defendants also moved to dismiss. In February 2016, the District Court granted in part and denied in part defendants' motion to dismiss. The District Court declined to dismiss plaintiffs' claims for conspiracy to commit racketeering activity in violation of 18 U.S.C. §1962(d) and claims for negligent misrepresentation. In April 2016, plaintiffs filed a third amended complaint, which defendants moved to dismiss in June 2016. In August 2016, the court denied the motion to dismiss and we filed a response to the third amended complaint in September 2016. In October 2015, a similar civil class action complaint was filed against EPI and other defendant manufacturers in the U.S. District for the Northern District of Illinois. Similar litigation may be brought by other plaintiffs. We are unable to predict the outcome of this matter or the ultimate legal and financial liability, if any, and at this time cannot reasonably estimate the possible loss or range of loss for this matter, if any, but we intend to contest this litigation vigorously and will explore all options as appropriate in our best interests.

Unapproved Drug Litigation

In September 2013, the State of Louisiana filed a petition for damages against certain of our subsidiaries, EPI and Generics Bidco I, LLC, and over 50 other pharmaceutical companies alleging the defendants or their subsidiaries marketed products that were not approved by the FDA. See *State of Louisiana v. Abbott Laboratories, Inc., et al*., C624522 (19th Jud. Dist. La.). The State of Louisiana sought damages, fines, penalties, attorneys' fees and costs under various causes of action. In October 2015, the District Court ordered judgment for defendants on their exception for no right of action. The State of Louisiana appealed that decision and in October 2016, the Louisiana Court of Appeals, First Circuit, issued a decision affirming the dismissal as to certain counts and reversing the dismissal as to others. The State filed a petition for rehearing, which was denied by the court in December 2016. Both sides have applied to Louisiana Supreme Court for a writ of certiorari to review the First Circuit's decision.

We intend to contest the above case vigorously and to explore other options as appropriate in our best interests. Litigation similar to that described above may also be brought by other plaintiffs in various jurisdictions. However, we cannot predict the timing or outcome of any such litigation, or whether any such litigation will be brought against us. We are unable to predict the outcome of this matter or the ultimate legal and financial liability, if any, and at this time cannot reasonably estimate the possible loss or range of loss for this matter, if any.

Opioid-Related Litigations, Subpoenas and Document Requests

In June 2014, Corporation Counsel for the City of Chicago filed suit in Illinois state court against multiple defendants, including our subsidiaries, Endo Health Solutions Inc. (EHSI) and EPI, for alleged violations of city ordinances and other laws relating to defendants' alleged opioid sales and marketing practices. In June 2014, the case was removed to the U.S. District Court for the Northern District of Illinois. In December 2014, defendants moved to dismiss the amended complaint and in May 2015, the District Court issued an order granting that motion in part, dismissing the case as to EHS and EPI. In August 2015, plaintiff filed its second amended complaint against multiple defendants, including EPI and EHSI. In November 2015, defendants moved to dismiss the second amended complaint. In September 2016, the District Court granted in part and denied in part defendants' motions to dismiss and provided plaintiff an opportunity to amend its complaint. Plaintiff filed the third amended complaint in October 2016. In December 2016, defendants moved to dismiss the re-pled claims in the third amended complaint, and filed their answers as to the claims not previously dismissed by the Court.

In May 2014, a lawsuit was filed in California Superior Court (Orange County) in the name of the People of the State of California, acting by and through County Counsel for Santa Clara County and the Orange County District Attorney, against multiple defendants, including our subsidiaries EHSI and EPI (with EPI being added as part of the first amended complaint in June 2014). The complaint asserts violations of California's statutory Unfair Competition and False Advertising laws, as well as asserting a claim for public nuisance, based on alleged misrepresentations in connection with sales and marketing of opioids, including OPANA®. Plaintiff seeks declaratory relief, restitution, civil penalties (including treble damages), abatement, an injunction, and attorneys' fees and costs. Defendants, which include our subsidiaries, filed various motions attacking the pleadings, including one requesting that the Superior Court refrain from proceeding under the doctrines of primary jurisdiction and equitable abstention. That motion was granted in August 2015, and the case was stayed pending further proceedings and findings by the FDA. In June 2016, plaintiffs filed a motion to lift the stay and to amend the complaint. Defendants, including EHSI and EPI, opposed that motion. Following a hearing in July 2016, the court provided plaintiffs an opportunity to seek leave to file another amended complaint. In August 2016, plaintiffs filed a renewed motion to lift the stay and amend the complaint. In October 2016, the court granted, in part, plaintiffs' renewed motion to lift the stay and the plaintiffs filed their third amended complaint. Defendants' response to the third amended complaint is not due at this time.

In December 2015, a lawsuit was filed in the Chancery Court of the First Judicial District of Hinds County, Mississippi by the State of Mississippi against multiple defendants, including our subsidiaries EHSI and EPI. The complaint alleges violations of Mississippi's Consumer Protection Act and various other claims arising out of defendants' alleged opioid sales and marketing practices. Plaintiff seeks declaratory relief, restitution, civil penalties, abatement, an injunction, and attorneys' fees and costs. In March 2016, defendants moved to dismiss the complaint and to transfer the case from Hinds County to Rankin County. The motion to transfer was denied in February 2017. The motion to dismiss remains pending.

In September 2014, our subsidiaries EHSI and EPI received a Request for Information from the State of Tennessee Office of the Attorney General and Reporter seeking documents and information regarding the sales and marketing of opioids, including OPANA® ER. We are currently cooperating with the State of Tennessee Office of the Attorney General and Reporter in this investigation.

In August 2015, our subsidiaries EHSI and EPI received a subpoena from the State of New Hampshire Office of the Attorney General seeking documents and information regarding the sales and marketing of opioids, including OPANA® ER. We were cooperating with the State of New Hampshire Office of the Attorney General in its investigation until we learned it was being assisted by outside counsel hired on a contingent fee basis. The New Hampshire Attorney General initiated an action in the Superior Court for the State of New Hampshire to enforce the subpoena despite this contingent fee arrangement, and we (along with other companies that had received similar subpoenas) responded by filing a motion for protective order to preclude the use of contingent fee counsel. In addition, we filed a separate motion seeking declaratory relief. In March 2016, the Superior Court granted the motion for protective order on the grounds that the contingent fee agreement was invalid as *ultra vires* and that the office of the Attorney General had acted outside of its statutory authority in entering into the agreement with the contingent fee counsel. In April 2016, both the New Hampshire Attorney General and the companies that received subpoenas from the New Hampshire Attorney General, including EHSI and EPI, appealed, in part, the March 2016 Superior Court order to the New Hampshire Supreme Court. Those appeals are pending. In April 2016, the New Hampshire Attorney General also entered into a new agreement with outside counsel. In response, the companies that received a subpoena from the New Hampshire Attorney General, including EHSI and EPI, moved to enforce a part of the protective order issued by the Superior Court in March 2016 that is not being appealed by EHSI and EPI. That motion was denied in August 2016.

In April 2016, EHSI and EPI received a Civil Investigative Demand (CID) from the Department of Justice (DOJ) for the State of Oregon seeking documents and information regarding the sales and marketing of OPANA® ER. We are currently cooperating with the State of Oregon in its investigation.

In August 2016, the County of Suffolk, New York filed suit in New York state court against multiple defendants, including our subsidiaries, EHSI and EPI, for alleged violations of state false and deceptive advertising and other statutes, public nuisance, common law fraud, and unjust enrichment based on opioid sales and marketing practices. The County of Suffolk is seeking compensatory damages, interest, costs, disbursements, punitive damages, treble damages, penalties and attorneys' fees. Defendants, including our subsidiaries, filed motions to dismiss and to stay in January 2017. In February 2017, Broome County, New York, and Erie County, New York, filed similar suits in New York state court.

In November 2016, Endo International plc and EPI received an Administrative Subpoena from the Office of the Attorney General of Maryland seeking documents and information regarding the sales and marketing of opioid products. We are currently cooperating with the State of Maryland in its investigation.

With respect to the litigations brought on behalf of the City of Chicago, the People of the State of California, the State of Mississippi and the Counties of Suffolk, Broome and Erie, we intend to contest those matters vigorously. We are unable to predict the outcome of these matters or the ultimate legal and financial liability, if any, and at this time cannot reasonably estimate the possible loss or range of loss, if any, for these matters but will explore all options as appropriate in our best interests.

Antitrust Litigation and Investigations

Multiple direct and indirect purchasers of Lidoderm® have filed a number of cases against our subsidiary EPI and co-defendants Teikoku Seiyaku Co., Ltd., Teikoku Pharma USA, Inc. (collectively, Teikoku) and Actavis plc and certain of its subsidiaries (collectively, Actavis), which was subsequently acquired by Teva Pharmaceuticals Industries Ltd and its subsidiaries (collectively, Teva) from Allergan plc (Allergan). Certain of these actions have been asserted on behalf of classes of direct and indirect purchasers, while others are individual cases brought by one or more alleged direct or indirect purchasers. The complaints in these cases generally allege that EPI, Teikoku and Actavis entered into an anticompetitive conspiracy to restrain trade through the settlement of patent infringement litigation concerning U.S. Patent No. 5,827,529 (the '529 patent) and other patents. Some of the complaints also allege that Teikoku wrongfully listed the '529 patent in the Orange Book as related to Lidoderm®, that EPI and Teikoku commenced sham patent litigation against Actavis and that EPI abused the FDA citizen petition process by filing a citizen petition and amendments solely to interfere with generic companies' efforts to obtain FDA approval of their versions of Lidoderm®. The cases allege violations of Sections 1 and 2 of the Sherman Act (15 U.S.C. §§ 1, 2) and various state antitrust and consumer protection statutes as well as common law remedies in some states. These cases generally seek damages, treble damages, disgorgement of profits, restitution, injunctive relief and attorneys' fees.

The U.S. Judicial Panel on Multidistrict Litigation, pursuant to 28 U.S.C. § 1407, issued an order in April 2014 transferring these cases as *In Re Lidoderm Antitrust Litigation*, MDL No. 2521, to the U.S. District Court for the Northern District of California. The court granted plaintiffs' motions for class certification filed on behalf of classes of direct and indirect purchasers in February 2017. Trial is currently scheduled to begin in late 2017. Litigation similar to that described above may also be brought by other plaintiffs in various jurisdictions, and we expect any such cases brought in federal court to be transferred to the Northern District of California as tag-along actions to *In Re Lidoderm Antitrust Litigation*.

Multiple direct and indirect purchasers of OPANA® ER have filed cases against our subsidiaries EHSI and EPI, and other pharmaceutical companies, including Penwest Pharmaceuticals Co., which we subsequently acquired, and Impax Laboratories Inc. (Impax), all of which have been transferred and coordinated for pretrial proceedings in the U.S. District Court for the Northern District of Illinois by the Judicial Panel on Multidistrict Litigation. Some of these cases have been filed on behalf of putative classes of direct and indirect purchasers, while others have been filed on behalf of individual retailers or health care benefit plans. These cases generally allege that the agreement reached by EPI and Impax to settle patent infringement litigation concerning multiple patents pertaining to OPANA® ER and EPI's introduction of the re-formulation of OPANA® ER violated antitrust laws. The complaints allege violations of Sections 1 and 2 of the Sherman Act (15 U.S.C. §§ 1, 2), various state antitrust and consumer protection statutes, as well as state common law. These cases generally seek damages, treble damages, disgorgement of profits, restitution, injunctive relief and attorneys' fees. In February 2016, the District Court issued orders (i) denying defendants' motion to dismiss the claims of the direct purchasers, (ii) denying in part and granting in part defendants' motion to dismiss the claims of the indirect purchasers, but giving them permission to file amended complaints and (iii) granting defendants' motion to dismiss the complaints filed by certain retailers, but giving them permission to file amended complaints. In response to the District Court's orders, the indirect purchasers filed an amended complaint to which the defendants filed a renewed motion to dismiss certain claims, and certain retailers also filed amended complaints. The defendants successfully moved to dismiss the indirect purchaser unjust enrichment claims arising under the laws of the states of California, Rhode Island and Illinois. We cannot predict whether or not additional cases similar to those described above will be filed by other plaintiffs or the timing or outcome of any such litigation.

We are unable to predict the outcome of these matters or the ultimate legal and financial liability, if any, and at this time cannot reasonably estimate the possible loss or range of loss for these matters, if any, but will explore all options as appropriate in our best interests.

In February 2014, our subsidiary EPI received a CID (the February 2014 CID) from the U.S. Federal Trade Commission (the FTC). The FTC issued a second CID to EPI in March 2014 (the March 2014 CID). The February 2014 CID requested documents and information concerning EPI's settlement agreements with Actavis and Impax settling the OPANA® ER patent litigation, EPI's Development and Co-Promotion Agreement with Impax, and its settlement agreement with Actavis settling the Lidoderm® patent litigation, as well as information concerning the marketing and sales of OPANA® ER and Lidoderm®. The March 2014 CID requested documents and information concerning EPI's acquisition of U.S. Patent No. 7,852,482 (the '482 patent), as well as additional information concerning certain litigation relating to, and the marketing and sales of OPANA® ER. The FTC also issued subpoenas for investigational hearings (similar to depositions) to our employees and former employees. In March 2016, the FTC filed a lawsuit in the U.S. District Court for the Eastern District of Pennsylvania against us and our subsidiary EPI, as well as against Allergan, Actavis, Impax and Teikoku, alleging generally that the Lidoderm® settlement agreements with Actavis and the OPANA® ER settlement agreement with Impax constituted, in whole or part, unfair methods of competition in violation Section 5(a) of the FTC Act, 15 U.S.C. § 45(a). The FTC also alleged that one provision of the agreement with Actavis violated Section 7 of the Clayton Act, 15 U.S.C. § 18. Concurrently with the filing of the FTC's complaint, Teikoku entered into a consent judgment with the FTC and was dismissed from the case. The Complaint sought injunctive and declaratory relief and other remedies, including restitution and disgorgement. In June 2016, we joined in the defendants' motion to sever OPANA® ER-related claims from the Lidoderm®-related claims. In July 2016, a motion to dismiss was filed on behalf of all remaining defendants. In October 2016, the District Court granted the defendants' motion to sever the claims and ordered the FTC to file a new complaint for the OPANA® ER-related claims and to amend the existing complaint to include only the Lidoderm®-related claims. The District Court also denied the defendants' motion to dismiss as moot with leave to refile in each of the two separate actions. Subsequently in October 2016, the FTC voluntarily dismissed its pending complaint against us without prejudice. Following the FTC's voluntary dismissal, in October 2016, we, along with Impax and Actavis, filed two separate lawsuits against the FTC in the Eastern District of Pennsylvania seeking declaratory judgment relating, respectively, to the FTC's OPANA® ER-related claims and Lidoderm®-related claims. The declaratory judgment actions each sought a declaration by the court that the FTC does not have the authority under the FTC Act to bring its claims in federal court or to seek disgorgement. The declaratory judgment action concerning the OPANA® ER-related claims also sought a declaration that the FTC's claims are time-barred. In December 2016, the FTC filed a motion to dismiss the declaratory judgment actions for failure to state a claim. In January 2017, the FTC re-filed claims against us, our subsidiary EPI, and other defendants in the U.S. District Court for the Northern District of California and also filed a joint motion for entry of a Stipulated Order dismissing the claims against us and EPI. The Stipulated Order involves no monetary payment to the FTC and no admission of liability. Under the Stipulated Order, we agreed to dismiss our claims in the declaratory judgment actions, and also agreed to certain covenants relating to the future settlement of patent infringement litigation for a period of 10 years. These covenants, which are consistent with Endo's current practices in settling patent infringement cases, include a prohibition on agreements that prevent the marketing of authorized generic products or that involve certain payments to generics manufacturers in connection with a later market entry date for their products. The FTC agreed that the prior dismissal of its claims against us in the Eastern District of Pennsylvania will be treated as being with prejudice, that it will bring no other claims against us arising from the Opana® ER and Lidoderm® settlements and that it would also dismiss with prejudice its claims against our subsidiary Par Pharmaceutical Companies, Inc. (subsequently renamed Endo Generics Holdings, Inc. and referred to in this Note 14. Commitments and Contingencies as Par) in the action *FTC v. Actavis, Inc., et al.* pending in the U.S. District Court for the Northern District of Georgia. The Stipulated Order also requires the FTC to consider in good faith any requested modifications proposed by us in the event of a material change in the law governing the antitrust implications of patent infringement settlements. As of February 2017, the Stipulated Order of dismissal has been entered by the Northern District of California, we have dismissed the declaratory judgment actions filed against the FTC in the Eastern District of Pennsylvania, and the FTC has dismissed its claims against Par in the *Actavis* case in the Northern District of Georgia.

In November 2014, EPI received a CID from the State of Florida Office of the Attorney General issued pursuant to the Florida Antitrust Act of 1980, Section 542.28 seeking documents and other information concerning EPI's settlement agreement with Actavis settling the Lidoderm® patent litigation, as well as information concerning the marketing and sales of Lidoderm®.

In February 2015, EHSI and EPI received CIDs for Production of Documents and Information from the State of Alaska Office of Attorney General issued pursuant to Alaska's Antitrust and Unfair Trade Practices and Consumer Protection law seeking documents and other information concerning settlement agreements with Actavis and Impax settling the OPANA® ER patent litigation as well as information concerning EPI's settlement agreement with Actavis settling the Lidoderm patent litigation, as well as information concerning the marketing and sales of Lidoderm®.

In February 2016, EPI received a CID from the State of South Carolina Office of the Attorney General seeking documents and other information concerning EPI's settlement agreement with Actavis settling the Lidoderm® patent litigation, as well as information concerning the marketing and sales of Lidoderm®.

In January 2009, the FTC filed a lawsuit against our subsidiary, Par, in the U.S. District Court for the Central District of California, which was subsequently transferred to the U.S. District Court for the Northern District of Georgia, and which alleged violations of antitrust law arising out of Par's settlement of certain patent litigation concerning the generic version of AndroGel®. The FTC complaint sought a finding that Par's settlement agreement violates Section 5(a) of the Federal Trade Commission Act, and a permanent injunction against Par's ability to engage in certain types of patent settlements in the future. Beginning in February 2009, certain private plaintiffs, including distributors and retailers, filed similar litigation. Generally, the remaining private plaintiff suits seek equitable relief, unspecified damages and costs.

In February 2010, the District Court granted a motion to dismiss the FTC's claims and granted in part and denied in part a motion to dismiss the claims of the private plaintiffs. In April 2012, the U.S. Court of Appeals for the 11th Circuit affirmed the District Court's decision on the motion to dismiss the FTC's claims. In September 2012, the District Court granted a motion for summary judgment against the private plaintiffs' claims of sham litigation. In July 2013, the Supreme Court of the U.S. reversed the Court of Appeals' and District Court's decisions concerning the FTC action and remanded the case to the District Court for further proceedings. In May 2016, those private plaintiffs representing the putative class of indirect purchasers voluntarily dismissed their case against Par with prejudice. In February 2017, pursuant to the Stipulated Order described above, the FTC dismissed its claims against Par with prejudice. Claims by the direct purchasers are still pending. We intend to contest this litigation vigorously and to explore all options as appropriate in our best interests.

In February 2015, Par received a CID from the Office of the Attorney General for the State of Alaska seeking production of certain documents and information regarding Par's settlement of the AndroGel® patent litigation as well as documents produced in the aforementioned litigation filed by the FTC.

We are currently cooperating with the State of Florida Office of the Attorney General, the State of Alaska Office of the Attorney General and the State of South Carolina Office of the Attorney General in their respective investigations. Investigations and lawsuits similar to these antitrust matters described above may be brought by others. We are unable to predict the outcome of these investigations or litigations or the ultimate legal and financial liability, if any, and at this time cannot reasonably estimate the possible loss or range of loss for these investigations or litigations, if any, but will explore all options as appropriate in our best interests.

In July 2016, Fresenius Kabi USA, LLC (Fresenius) filed a complaint against Par and its subsidiary, Par Sterile Products, LLC, in the U.S. District Court for the District of New Jersey alleging that Par and its subsidiary engaged in an anticompetitive scheme to exclude competition from the market for vasopressin solution for intravenous injection in view of Par's Vasostrict® (vasopressin) product. The complaint alleges violations of Sections 1 and 2 of The Sherman Antitrust Act, 15 U.S.C. §§ 1, 2, as well as the antitrust law and common law of the state of New Jersey, alleging that Par and its subsidiary entered into exclusive supply agreements with one or more active pharmaceutical ingredient (API) manufacturers and that Fresenius has been unable to obtain vasopressin API in order to file an ANDA to obtain FDA approval for its own vasopressin product. Fresenius seeks actual, treble and punitive damages in an unspecified amount, attorneys' fees and costs and injunctive relief and demands a trial by jury. In September 2016, Par and its subsidiary filed a motion to dismiss the case for Fresenius' failure to properly state a claim under the antitrust laws. In February 2017, the District Court denied Par's motion to dismiss. We are unable to predict the outcome of this matter or the ultimate legal and financial liability, if any, and at this time cannot reasonably estimate the possible loss or range of loss, if any, for this matter. We intend to contest the litigation vigorously and to explore all options as appropriate in our best interests.

False Claims Act Litigation

The Attorneys General of Florida, Indiana and Virginia and the U.S. Office of Personnel Management (the USOPM) have issued subpoenas, and the Attorneys General of Michigan, Tennessee, Texas, and Utah have issued CIDs, to our subsidiary, Par, among other companies. The demands generally request documents and information pertaining to allegations that certain of Par's sales and marketing practices caused pharmacies to substitute ranitidine capsules for ranitidine tablets, fluoxetine tablets for fluoxetine capsules, and two 7.5 mg buspirone tablets for one 15 mg buspirone tablet, under circumstances in which some state Medicaid programs at various times reimbursed the new dosage form at a higher rate than the dosage form being substituted. Par has provided documents in response to these subpoenas to the respective Attorneys General and the USOPM. The aforementioned subpoenas and CIDs culminated in the federal and state law qui tam action brought on behalf of the U.S. and several states by Bernard Lisitza. The complaint was unsealed in August 2011. Lisitza's corrected second amended complaint generally seeks (i) a finding that defendants violated and be enjoined from future violations of the federal False Claims Act and state false claims acts; (ii) treble damages and maximum civil penalties for each violation of the federal False Claims Act and state false claims acts; (iii) an applicable percentage share of the proceeds; and (iv) expenses, fees, and costs. The U.S. intervened in this action and filed a separate complaint in September 2011, alleging claims for violations of the Federal False Claims Act and common law fraud. The U.S.'s second corrected complaint generally seeks (i) treble damages and civil penalties for violations under the federal False Claims Act and (ii) compensatory and punitive damages for common law fraud. The states of Michigan and Indiana have also intervened as to claims arising under their respective state false claim acts, common law fraud, and unjust enrichment. Michigan's complaint generally seeks (i) treble damages and civil penalties and (ii) common law compensatory and punitive damages. Indiana's amended complaint generally seeks treble damages, costs, and attorney's fees. We intend to vigorously defend this lawsuit. At this time, we are unable to predict the outcome of this matter or the ultimate legal and financial liability, if any, and at this time cannot reasonably estimate the possible loss or range of loss for this matter, if any.

Pricing Matters

In March 2016, EPI received a CID from the U.S. Attorney's Office for the Southern District of New York. The CID requested documents and information regarding contracts with Pharmacy Benefit Managers regarding Frova®. We are currently cooperating with this investigation. We are unable to predict the outcome of these matters or the ultimate legal and financial liability, if any, and at this time cannot reasonably estimate the possible loss or range of loss, if any, for these matters but will explore all options as appropriate in our best interests.

In December 2014, our subsidiary Par received a Subpoena to Testify Before Grand Jury from the Antitrust Division of the DOJ and issued by the U.S. District Court for the Eastern District of Pennsylvania. The subpoena requested documents and information focused primarily on product and pricing information relating to Par's authorized generic version of Lanoxin (digoxin) oral tablets and Par's generic doxycycline products, and on communications with competitors and others regarding those products. Par is currently cooperating fully with the investigation.

In December 2015, EPI received Interrogatories and Subpoena Duces Tecum from the State of Connecticut Office of Attorney General requesting information regarding pricing of certain of its generic products, including Doxycycline Hyclate, Amitriptyline Hydrochloride, Doxazosin Mesylate, Methotrexate Sodium and Oxybutynin Chloride. We are currently cooperating with this investigation.

Beginning in January 2016, several complaints, including multiple class action complaints, were filed in the Philadelphia Court of Common Pleas and in the U.S. District Courts for the Eastern District of Pennsylvania and the District of Rhode Island against us and certain of our subsidiaries, including Par, along with other manufacturers of certain generic pharmaceutical products, seeking compensatory and punitive or treble damages, as well as injunctive relief and alleging that certain marketing and pricing practices by the defendant companies, including pricing practices regarding digoxin and doxycyline, violated state law, including consumer protection law, and/or federal and state antitrust laws. The U.S. Judicial Panel on Multidistrict Litigation, pursuant to 28 U.S.C. §1407, issued an order in August 2016 transferring certain of these cases as *In Re Generic Digoxin and Doxycycline Antitrust Litigation*, MDL No. 2724, to the U.S. District Court for the Eastern District of Pennsylvania. The direct purchaser plaintiffs and indirect purchaser plaintiffs filed their consolidated amended class action complaints in January 2017. Additional similar claims may be brought by other plaintiffs in various jurisdictions. We intend to contest the litigation vigorously and to explore all options as appropriate in our best interests.

Since November 2016, several class action complaints have been filed in the U.S. District Court for the Eastern District of Pennsylvania against us and certain of our subsidiaries, including Par, and other manufacturers seeking compensatory and punitive or treble damages, as well as injunctive relief, and alleging that certain marketing and pricing practices regarding divalproex ER violated federal and/or state antitrust laws and/or gave rise to state consumer protection and/or unjust enrichment claims. Additional similar claims may be brought by other plaintiffs in various jurisdictions. We intend to contest the litigation vigorously and to explore all options as appropriate in our best interests.

Beginning in December 2016, multiple class action complaints were filed in the U.S. District Court for the Eastern District of Pennsylvania and U.S. District Court for the Southern District of New York against us and certain of our subsidiaries, including Par, and other manufacturers seeking compensatory and punitive or treble damages, as well as injunctive relief, and alleging that certain marketing and pricing practices regarding propranolol violated federal and/or state antitrust laws and/or gave rise to state consumer protection and/or unjust enrichment claims. Additional similar claims may be brought by other plaintiffs in various jurisdictions. We intend to contest the litigation vigorously and to explore all options as appropriate in our best interests.

In January 2017, Rochester Drug Co-Operative, Inc. filed a motion with the U.S. Judicial Panel on Multidistrict Litigation seeking to transfer all direct purchaser complaints involving propranolol and various other generic pharmaceuticals to the U.S. District Court for the Eastern District of Pennsylvania for coordinated or consolidated pretrial proceedings, as part of the *In re Generic Digoxin and Doxycycline Antitrust Litigation* multidistrict litigation proceedings. Rochester Drug further requested that the proceedings be renamed *In re Generic Pharmaceuticals Pricing Antitrust Litigation*. In January 2017, Par, together with other manufacturers named as defendants in the relevant lawsuits, filed a memorandum opposing Rochester Drug's motion. As of this writing, the U.S. Judicial Panel on Multidistrict Litigation has not ruled on Rochester Drug's motion.

We are unable to predict the outcome of these matters or the ultimate legal and financial liability, if any, and at this time cannot reasonably estimate the possible loss or range of loss, if any, for these matters but will explore all options as appropriate in our best interests.

Megace ES® (megestrol acetate oral suspension) Cases

In September 2011, our subsidiary, Par Pharmaceutical, Inc. (PPI), along with EDT Pharma Holdings Ltd. (Elan) (now known as Alkermes Pharma Ireland Limited), filed a complaint against TWi Pharmaceuticals, Inc. (TWi) in the U.S. District Court for the District of Maryland alleging infringement of U.S. Patent No. 7,101,576 because TWi filed an ANDA with a Paragraph IV certification seeking FDA approval of a generic version of Megace® ES. A bench trial was held in October 2013, and in February 2014, the District Court issued a decision in favor of TWi, finding all asserted claims of the 7,101,576 patent invalid for obviousness. Par appealed. In August 2014, the District Court issued a preliminary injunction enjoining TWi's launch of its generic product pending disposition of the appeal. In December 2014, the Federal Circuit reversed the District Court's decision, remanding for further findings of fact. In March 2015, the District Court issued another preliminary injunction enjoining TWi's launch of its generic product pending disposition of the case on remand. In July 2015, the District Court issued a new decision in favor of TWi, finding all of the asserted claims invalid, and TWi launched its generic product. PPI appealed again, and in December 2015, the District Court's decision in favor of TWi was affirmed without opinion. In February 2016, TWi moved the District Court to recover its lost profits, which TWi alleged in the amount of $16 million, resulting from the previous injunctions to which the District Court subjected TWi, as well as attorneys' fees and costs. PPI opposed TWi's motion. In September 2016, the District Court denied TWi's motion for attorneys' fees and costs and granted in part and denied in part TWi's motion to recover its lost profits, ordering PPI to pay $12.7 million. On November 21, 2016, PPI paid the judgment and bill of costs to TWi in the amount of $12.8 million (including interest), and a Notice of Satisfaction was filed with the Court on November 28, 2016 terminating the case.

Securities Related Class Action Litigation

In May 2016, a putative class action entitled *Craig Friedman v. Endo International plc, Rajiv Kanishka Liyanaarchie de Silva and Suketu P. Upadhyay* was filed in the U.S. District Court for the Southern District of New York by an individual shareholder on behalf of himself and all similarly situated shareholders. In August 2016, the Steamfitters' Industry Pension Fund and Steamfitters' Industry Security Benefit Fund were appointed lead plaintiffs in the action. In October 2016, a second amended complaint was filed, which added Paul Campanelli as a defendant, and we filed a motion to dismiss the case. In response, and without resolving the motion, the Court permitted lead plaintiffs to file a third amended complaint. The lawsuit alleges violations of Sections 10(b) and 20(a) of the Exchange Act based on the Company's revision of its 2016 earnings guidance and certain disclosures about its generics business, the integration of Par and its subsidiaries, certain other alleged business issues and the receipt of a CID from the U.S. Attorney's Office for the Southern District of New York regarding contracts with Pharmacy Benefit Managers concerning Frova®. Lead plaintiffs seek class certification, damages in an unspecified amount and attorneys' fees and costs. We filed a motion to dismiss the third amended complaint in December 2016. We are unable to predict the outcome of this matter or the ultimate legal and financial liability, if any, and at this time cannot reasonably estimate the possible loss or range of loss, if any, for this matter, but will explore all options as appropriate in our best interests and we intend to defend this lawsuit vigorously.

In November 2016, a putative class action was filed in the U.S. District Court for the Southern District of New York by an individual shareholder on behalf of herself and all similarly situated shareholders, bearing the caption *Doris Shasha v. Endo International plc Company, Rajiv Kanishka Liyanaarchchie De Silva and Suketu P. Upadhyay*. The lawsuit alleged violations of Sections 10(b) and 20(a) of the Exchange Act. It alleged that certain of the Company's public disclosures from September 28, 2015 through November 2, 2016 contained misstatements or omissions, based on news reports of an investigation by the Department of Justice into potential price collusion in the pharmaceutical industry. In November 2016, the plaintiff voluntarily dismissed the case without prejudice.

Paragraph IV Certifications on OPANA® ER

In late 2012, two patents (U.S. Patent Nos. 8,309,122 and 8,329,216) were issued to EPI covering OPANA® ER (oxymorphone hydrochloride extended-release tablets CII). In December 2012, EPI filed a complaint against Actavis in U.S. District Court for the Southern District of New York for patent infringement based on its ANDA for a non-INTAC® technology version of OPANA® ER. In May 2013 and June 2013, EPI filed similar suits in the U.S. District Court for the Southern District of New York against the following applicants for non-INTAC® technology OPANA® ER: Roxane Laboratories, Inc. (Roxane) and Ranbaxy Laboratories Limited, which was acquired by Sun Pharmaceutical Industries Ltd. (Ranbaxy). Those suits allege infringement of U.S. Patent Nos. 7,851,482, 8,309,122, and 8,329,216. In July 2013, Actavis and Roxane were granted FDA approval to market all strengths of their respective non-INTAC® technology formulations of OPANA® ER. A trial in this case was held from March 2015 through April 2015 in the U.S. District Court for the Southern District of New York. In August 2015, the District Court ruled that all defendants infringed the claims of U.S. Patent Nos. 8,309,122 and 8,329,216. The District Court also ruled that the defendants failed to show that U.S. Patent Nos. 8,309,122 and 8,329,216 were invalid, enjoined the defendants from launching their generic products until the expiration of those patents and directed Actavis to withdraw its generic product within 60 days. In October 2015, the District Court tolled the 60-day period until it decided two pending post-trial motions. In April 2016, the District Court issued an order upholding its August 2015 ruling in EPI's favor and confirming the prior injunction against the manufacture or sale of the generic version of the non-INTAC® technology OPANA® ER currently offered by Actavis and the additional approved but not yet marketed generic version of the product developed by Roxane. The defendants filed appeals to the Court of Appeals for the Federal Circuit. We intend to continue vigorously asserting our intellectual property rights and to oppose any such appeal.

From September 21, 2012 through October 30, 2013, EPI and its partner Grünenthal received Paragraph IV Notices from each of Teva Pharmaceuticals USA, Inc., Amneal Pharmaceuticals, LLC (Amneal), ThoRx Laboratories, Inc. (ThoRx), Actavis, Impax and Ranbaxy (now Sun Pharmaceutical Industries Ltd.), advising of the filing by each such company of an ANDA for a generic version of the formulation of OPANA® ER with INTAC® technology. These Paragraph IV Notices refer to U.S. Patent Nos. 7,851,482, 8,075,872, 8,114,383, 8,192,722, 8,309,060, 8,309,122 and 8,329,216, which variously cover the formulation of OPANA® ER, a highly pure version of the active pharmaceutical ingredient and the release profile of OPANA® ER. EPI filed lawsuits against each of these filers in the U.S. District Court for the Southern District of New York. Each lawsuit was filed within the 45-day deadline to invoke a 30-month stay of FDA approval pursuant to the Hatch-Waxman legislative scheme. A trial in this case was held from March 2015 through April 2015 in the U.S. District Court for the Southern District of New York against the remaining filers. In August 2015, the District Court issued an Opinion holding that all defendants infringed the claims of U.S. Patent Nos. 8,309,060, 8,309,122 and 8,329,216. The Opinion also held that the defendants had shown that U.S. Patent No. 8,309,060 was invalid, but that the defendants had failed to show that U.S. Patent Nos. 8,309,122 and 8,329,216 were invalid. The District Court also issued an Order enjoining the defendants from launching their generic products until the expiration of U.S. Patent Nos. 8,309,122 and 8,329,216. The defendants filed appeals to the Court of Appeals for the Federal Circuit. We intend to continue to vigorously assert our intellectual property and oppose appeals by the defendants. However, there can be no assurance that we and/or Grünenthal will be successful. If we are unsuccessful and Teva, Amneal, ThoRx, Actavis or Impax is able to obtain FDA approval of its product, generic versions of OPANA® ER INTAC® technology may be launched prior to the applicable patents' expirations in 2023. Additionally, we cannot predict or determine the timing or outcome of this defense but will explore all options as appropriate in our best interests.

In August 2014 and October 2014, the U.S. Patent Office issued U.S. Patent Nos. 8,808,737 and 8,871,779 respectively, which cover a method of using OPANA® ER and a highly pure version of the active pharmaceutical ingredient of OPANA® ER. In November 2014, EPI filed lawsuits against Teva, ThoRx, Actavis, Impax, Ranbaxy, Roxane, Amneal, and Sandoz Inc. based on their ANDAs filed against both the INTAC® technology and non-INTAC® technology versions of OPANA® ER. Those lawsuits were filed in the U.S. District Court for the District of Delaware alleging infringement of these new patents, which expire in 2027 and 2029, respectively. On November 17, 2015, the District Court held the '737 patent invalid for claiming unpatentable subject matter. That patent has been dismissed from all suits and the suits administratively closed as to that patent, subject to appeal at the end of the case on the '779 patent. Beginning July 11, 2016, a three-day trial was held in the U.S. District Court for the District of Delaware against Teva and Amneal for infringement of the '779 patent. In October 2016, the District Court issued an Opinion holding that the defendants infringed the claims of U.S. Patent No. 8,871,779. The Opinion also held that the defendants had failed to show that U.S. Patent No. 8,871,779 was invalid. The District Court issued an Order enjoining the defendants from launching their generic products until the expiration of U.S. Patent No. 8,871,779 in November 2029. A trial for infringement of the '799 patent by Actavis was held in February 2017 in the same court (U.S. District Court for the District of Delaware) in front of the same judge.

We intend to defend vigorously our intellectual property rights and to pursue all available legal and regulatory avenues in defense of both the non-INTAC® technology formulation OPANA® ER and the INTAC® technology formulation OPANA® ER, including enforcement of the product's intellectual property rights and approved labeling. However, there can be no assurance that we will be successful. If we are unsuccessful, competitors that already have obtained, or are able to obtain, FDA approval of their products may be able to launch their generic versions of OPANA® ER prior to the applicable patents' expirations. Additionally, we cannot predict or determine the timing or outcome of related litigation but will explore all options as appropriate in our best interests. In addition to the above litigation, it is possible that another generic manufacturer may also seek to launch a generic version of OPANA® ER and challenge the applicable patents.

Paragraph IV Certification on Fortesta® Gel

In January 2013, EPI and its licensor Strakan Limited received a notice from Watson advising of the filing by Watson of an ANDA for a generic version of Fortesta® (testosterone) Gel. In February 2013, EPI filed a lawsuit against Watson in the U.S. District Court for the Eastern District of Texas, Marshall division. Because the suit was filed within the 45-day period under the Hatch-Waxman Act for filing a patent infringement action, we believe that it triggered an automatic 30-month stay of approval under the Act. A two-day trial was held on or about February 26 and 27, 2015. In August 2015, the District Court issued an Order holding that the asserted patents are valid and are infringed by Watson's ANDA. As a result, the District Court ordered that the effective date for the approval of Watson's ANDA to be the date no sooner than the latest expiration date of the '913 Patent and the '865 Patent in November of 2018. Watson filed an appeal in October 2015. In October 2016, the Court of Appeals for the Federal Circuit issued an opinion upholding the District Court's decision.

We intend, and have been advised by Strakan Limited that it too intends, to defend vigorously Fortesta® Gel and to pursue all available legal and regulatory avenues in defense of Fortesta® Gel, including enforcement of the product's intellectual property rights and approved labeling. However, there can be no assurance that we and/or Strakan will be successful. We cannot predict or determine the timing or outcome of this litigation but will explore all options as appropriate in our best interests. In addition to the above litigation, it is possible that another generic manufacturer may also seek to launch a generic version of Fortesta® Gel and challenge the applicable patents.

Other Proceedings and Investigations

In addition to the above proceedings, proceedings similar to those described above may also be brought in the future. Additionally, we are involved in, or have been involved in, arbitrations or various other proceedings that arise from the normal course of our business. We cannot predict the timing or outcome of these other proceedings. Currently, neither we nor our subsidiaries are involved in any other proceedings that we expect to have a material effect on our business, financial condition, results of operations and cash flows.

Leases

We lease certain fixed assets under capital leases that expire through 2025. We lease automobiles, machinery and equipment and facilities under certain noncancelable operating leases that expire through 2024. These leases are renewable at our option.

On October 28, 2011, our subsidiary EPI entered into a lease agreement for a new Company headquarters in Malvern, Pennsylvania. The term of this lease is 12 years and includes three renewal options, each for an additional 60-month period. On September 4, 2014, the Company entered into a sublease agreement to lease approximately 60,000 square feet from January 1, 2015 to December 31, 2016 increasing to 90,000 square feet from January 1, 2017 to December 31, 2024. We will receive approximately $20.0 million in minimum rental payments over the remaining term of the sublease.

Our lease is accounted for as a direct financing arrangement whereby the Company recorded, over the construction period, the full cost of the asset in Property, plant and equipment, net. A corresponding liability was also recorded, net of leasehold improvements paid for by the Company, and is being amortized over the expected lease term through monthly rental payments using an effective interest method. At December 31, 2016, there was a liability of $42.8 million related to this arrangement, $4.4 million of which is included in Accounts payable and accrued expenses and $38.4 million of which is included in Other liabilities in the accompanying Consolidated Balance Sheet.

A summary of minimum future rental payments required under capital and operating leases as of December 31, 2016 are as follows (in thousands):

	Capital Leases (1)	Operating Leases
2017	$ 8,591	$ 17,531
2018	7,269	16,295
2019	7,368	14,158
2020	7,360	11,923
2021	7,542	9,386
Thereafter	24,178	22,295
Total minimum lease payments	$ 62,308	$ 91,588
Less: Amount representing interest	5,332	
Total present value of minimum payments	$ 56,976	
Less: Current portion of such obligations	8,591	
Long-term capital lease obligations	$ 48,385	

(1) The direct financing arrangement is included under Capital Leases. Minimum payments have not been reduced by minimum sublease rentals of $20.0 million due in the future under a noncancelable sublease.

Expense incurred under operating leases were $22.2 million, $20.1 million and $8.5 million for the years ended December 31, 2016, 2015 and 2014, respectively.

NOTE 15. OTHER COMPREHENSIVE INCOME (LOSS)

The following table presents the tax effects allocated to each component of Other comprehensive income (loss) for the years ended December 31 (in thousands):

	2016			2015			2014		
	Before-Tax Amount	Tax Benefit (Expense)	Net-of-Tax Amount	Before-Tax Amount	Tax (Expense) Benefit	Net-of-Tax Amount	Before-Tax Amount	Tax Benefit (Expense)	Net-of-Tax Amount
Net unrealized (loss) gain on securities:									
Unrealized (loss) gain arising during the period	$ (1,588)	$ 674	$ (914)	$ 2,349	$ (50)	$ 2,299	$ (1,646)	$ 547	$ (1,099)
Less: reclassification adjustments for (gain) loss realized in net loss	(6)	—	(6)	—	—	—	17	—	17
Net unrealized (losses) gains	(1,594)	674	(920)	2,349	(50)	2,299	(1,629)	547	(1,082)
Net unrealized gain (loss) on foreign currency:									
Foreign currency translation gain (loss) arising during the period	18,267	13,462	31,729	(263,425)	(21,297)	(284,722)	(121,417)	28	(121,389)
Less: reclassification adjustments for loss realized in net loss	—	—	—	25,557	158	25,715	—	—	—
Foreign currency translation gain (loss)	18,267	13,462	31,729	(237,868)	(21,139)	(259,007)	(121,417)	28	(121,389)
Other comprehensive income (loss)	$ 16,673	$ 14,136	$ 30,809	$(235,519)	$ (21,189)	$(256,708)	$(123,046)	$ 575	$(122,471)

Reclassification adjustments out of Other comprehensive (loss) income are reflected in the Consolidated Statements of Operations as Other expense (income) net, with respect to the realized loss on securities or Discontinued operations, net of tax, with respect to the realized loss from foreign currency translation.

The following is a summary of the accumulated balances related to each component of Other comprehensive loss, net of taxes, at December 31, 2016 and 2015 (in thousands):

	December 31, 2016	December 31, 2015
Net unrealized gains	$ 895	$ 1,815
Foreign currency translation loss	(354,329)	(386,020)
Accumulated other comprehensive loss	$ (353,434)	$ (384,205)

NOTE 16. SHAREHOLDERS' EQUITY

On February 11, 2014, the Company issued 4,000,000 euro deferred shares of US$0.01 each at par. The euro deferred 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 and to have at least seven registered shareholders. The euro deferred shares carry no voting rights and are not entitled to receive any dividend or distribution.

On January 29, 2015, the Company acquired Auxilium for total consideration of $2.6 billion. The consideration included 18,609,835 ordinary shares valued at $1.52 billion.

On June 10, 2015, we completed the sale of 27,627,628 ordinary shares, including 3,603,603 ordinary shares sold upon the exercise in full by the underwriters of their option to purchase additional ordinary shares from us, at a price of $83.25 per share, for aggregate gross proceeds to us of $2.30 billion, before fees, in order to finance a portion of the Par acquisition (described in more detail in Note 5. Acquisitions).

On September 25, 2015, the Company acquired Par for total consideration of $8.14 billion, including the assumption of Par debt. The consideration included 18,069,899 ordinary shares valued at $1.33 billion.

During the year ended December 31, 2015, the Company completed a buy-out of the noncontrolling interest associated with its Litha subsidiary. The following table reflects the effect on the Company's equity for the year ended December 31, 2015 (in thousands):

Adjustment to Accumulated other comprehensive loss related to the reallocation (from noncontrolling to controlling interests) of foreign currency translation loss attributable to our noncontrolling interest in Litha	$	(3,904)
Decrease in noncontrolling interests for buy-out of Litha		(32,732)
Decrease in additional paid-in capital for buy-out of Litha		(2,972)
Total cash consideration paid related to buy-out of Litha	$	(39,608)

Share Repurchase Program

The Company has broad shareholder authority to conduct share repurchases of its ordinary shares, as our shareholders granted to the Company a general authority (the 2014 Share Buyback Authority) to make overseas market purchases (as defined by section 212 of the Irish Companies Act 1990 (the 1990 Act)) of shares of the Company on such terms and conditions as our Board of Directors may approve, but subject to the provisions of the 1990 Act and certain other provisions.

Pursuant to the 2014 Share Buyback Authority, in April 2015, our Board of Directors approved a share buyback program (the 2015 Share Buyback Program). The 2015 Share Buyback Program authorized the Company to redeem in the aggregate $2.5 billion of its outstanding ordinary shares. As permitted by Irish Law and the Company's Articles of Association, all ordinary shares redeemed under the 2015 Share Buyback Program shall be cancelled upon redemption.

In November 2015, the Company entered into a program to repurchase up to $250.0 million of its ordinary shares under the 2015 Share Buyback Program. The Company purchased approximately 4.4 million of its ordinary shares during November 2015 totaling $250.0 million, not including related fees.

NOTE 17. SHARE-BASED COMPENSATION

As discussed in Note 3. Discontinued Operations and Held for Sale, the operating results of the Company's AMS and Healthtronics businesses are reported as Discontinued operations, net of tax in the Consolidated Statements of Operations for all periods presented. However, as share-based compensation is not material for these businesses, amounts in this Note 17. Share-based Compensation have not been adjusted to exclude the impact of these businesses.

Stock Incentive Plans

In June 2015, the Company's shareholders approved the 2015 Stock Incentive Plan (the 2015 Plan). As of the effective date of the 2015 Plan, 10.0 million ordinary shares, including the transfer of 5.0 million ordinary shares available to be granted under the previous 2010 Stock Incentive Plan, were reserved for the granting of stock options (including incentive stock options), stock appreciation rights, restricted stock awards, performance awards and other share-based awards, which may be issued at the discretion of the Company's board of directors from time to time. Upon the approval of the 2015 Plan, no additional ordinary shares were to be granted under the previously approved plans, including the Company's 2000, 2004, 2007, 2010 and Assumed Stock Incentive Plans. All awards previously granted and outstanding under the prior plans remain subject to the terms of those prior plans.

At December 31, 2016, approximately 6.9 million ordinary shares were reserved for future grants under the 2015 Plan. As of December 31, 2016, stock options, restricted stock awards, performance stock units and restricted stock units have been granted under the stock incentive plans.

All share-based compensation cost is measured at the grant date, based on the estimated fair value of the award, and is recognized as an expense in the income statement over the requisite service period.

The Company recognized share-based compensation expense of $59.8 million, $98.8 million and $32.7 million during the years ended December 31, 2016, 2015 and 2014, respectively. The share-based compensation expense recognized during the year ended December 31, 2015 includes a charge related to the acceleration of Auxilium employee equity awards at closing of $37.6 million and $11.4 million of expense related to certain AMS equity awards modified in conjunction with the anticipated sale of the business. The AMS amounts are recorded in Discontinued Operations, net of tax. As of December 31, 2016, the total remaining unrecognized compensation cost related to all non-vested share-based compensation awards amounted to $56.4 million.

Presented below is the allocation of share-based compensation as recorded in our Consolidated Statements of Operations for the years ended December 31 (in thousands).

	2016	2015	2014
Selling, general and administrative expenses	$ 54,176	$ 79,928	$ 21,690
Research and development expenses	2,440	2,388	3,670
Cost of revenues	2,040	2,241	1,479
Discontinued operations (Note 3)	1,113	14,231	5,832
Total share-based compensation expense	$ 59,769	$ 98,788	$ 32,671

Stock Options

During the years ended December 31, 2016, 2015 and 2014, the Company granted stock options to employees of the Company as part of their annual share compensation award and, in certain circumstances, upon their commencement of service with the Company. Employee stock options generally vest ratably, in equal amounts, over a three or four-year service period and expire ten years from the grant date. For all of the Company's share-based compensation plans, the fair value of each option grant was estimated at the date of grant using the Black-Scholes option-pricing model. Black-Scholes utilizes assumptions related to volatility, the risk-free interest rate, the dividend yield (which is assumed to be zero, as the Company has not paid cash dividends to date and does not currently expect to pay cash dividends) and the expected term of the option. Expected volatilities utilized in the model are based mainly on the historical volatility of the Company's share price over a period commensurate with the expected life of the share option as well as other factors. The risk-free interest rate is derived from the U.S. Treasury yield curve in effect at the time of grant. We estimate the expected term of options granted based on our historical experience with our employees' exercise of stock options and other factors.

A summary of the activity for each of the years ended December 31 is presented below:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding as of January 1, 2014	4,245,789	$ 29.30		
Granted	736,948	$ 75.13		
Exercised	(1,528,295)	$ 27.09		
Forfeited	(371,410)	$ 39.76		
Expired	(19,680)	$ 24.56		
Outstanding as of December 31, 2014	3,063,352	$ 40.15		
Granted	794,757	$ 77.27		
Exercised	(880,885)	$ 30.93		
Forfeited	(201,397)	$ 72.24		
Expired	(7,260)	$ 45.20		
Outstanding as of December 31, 2015	2,768,567	$ 51.56		
Granted	2,578,105	$ 35.45		
Exercised	(62,589)	$ 31.19		
Forfeited	(858,556)	$ 52.27		
Expired	(100,318)	$ 60.71		
Outstanding as of December 31, 2016	4,325,209	$ 41.70	6.25	$ 740,404
Vested and expected to vest as of December 31, 2016	4,105,417	$ 41.53	6.10	$ 658,071
Exercisable as of December 31, 2016	1,823,819	$ 41.23	2.70	$ —

The range of exercise prices for the above stock options outstanding at December 31, 2016 is from $14.30 to $89.68.

The total intrinsic value of options exercised during the years ended December 31, 2016, 2015 and 2014 was $1.3 million, $27.2 million and $41.4 million, respectively. The weighted average grant date fair value of the stock options granted in the years ended December 31, 2016, 2015 and 2014 was $11.46, $21.09 and $20.28 per option, respectively, determined using the following average assumptions:

	2016	2015	2014
Expected term (years)	4.0	4.0	4.0
Risk-free interest rate	1.1%	1.3%	1.3%
Dividend yield	—	—	—
Expected volatility	43%	32%	32%

As of December 31, 2016, the weighted average remaining requisite service period of the non-vested stock options was 2.6 years. As of December 31, 2016, the total remaining unrecognized compensation cost related to non-vested stock options amounted to $16.9 million.

Restricted Stock Units and Performance Share Units

During the years ended December 31, 2016, 2015 and 2014, the Company granted restricted stock units (RSUs) and performance share units (PSUs) to employees of the Company as part of their annual share compensation award and, in certain circumstances, equity awards granted upon an employee's commencement of service with the Company. RSUs vest ratably, in equal amounts, over a three or four-year service period. PSUs vest in full after a three-year service period and are conditional upon the achievement of performance or market conditions established by the compensation committee of the Board of Directors.

In 2016, PSU grants are tied to total shareholder return (TSR) relative to the TSR of a selected industry group, with maximum payout levels also based on absolute compounded annual growth rate (CAGR) stock price objectives. Each award covered a three-year performance cycle. The actual number of shares awarded is adjusted to between zero and 300% of the target award amount based upon achievement of pre-determined relative TSR goals. TSR relative to peers is considered a market condition under applicable authoritative guidance.

Starting in 2014 and continuing in 2015, PSU grants are tied to the attainment of absolute CAGR for the Company's ordinary share price, which is considered a market condition under applicable authoritative guidance. Each award covers a three-year performance cycle. The actual number of shares awarded is adjusted to between zero and 300% of the target award amount based upon achievement of pre-determined CAGR goals.

Also starting in 2014 and continuing in 2015, the Company approved a share matching program (Matched PSUs), which is applicable to certain executive leadership team members. The program allows participants to make a direct investment in Endo ordinary shares during a pre-defined period, which the Company would immediately grant a Matched PSU for each qualifying ordinary share purchased up to the employee's base salary. The Matched PSUs would vest on the third anniversary of the date issued to the employee if the CAGR of the Company's ordinary shares is at least 10% over the three-year period. This program can be offered on a periodic basis, and the initial offering period was open from November 2014 through December 2015, not including blackout periods.

A summary of our nonvested restricted and performance stock units for the years ended December 31 is presented below:

	Number of Shares	Aggregate Intrinsic Value
Nonvested as of January 1, 2014	2,262,428	
Granted	609,357	
Forfeited	(374,463)	
Vested	(842,569)	
Nonvested as of December 31, 2014	1,654,753	
Granted	927,214	
Forfeited	(251,351)	
Vested	(523,763)	
Nonvested as of December 31, 2015	1,806,853	
Granted	1,582,429	
Forfeited	(975,994)	
Vested	(728,228)	
Nonvested as of December 31, 2016	1,685,060	$ 27,230,570
Vested and expected to vest as of December 31, 2016	1,524,287	$ 24,632,473

As of December 31, 2016, the weighted average remaining requisite service period of these units was 2.3 years. The weighted average grant date fair value of the units granted during the years ended December 31, 2016, 2015 and 2014 was $43.52, $72.34 and $73.70 per unit, respectively. As of December 31, 2016, the total remaining unrecognized compensation cost related to non-vested RSUs and PSUs amounted to $30.5 million and $9.0 million, respectively.

Employee Stock Purchase Plan

The Endo International plc Employee Stock Purchase Plan (ESPP) is a Company-sponsored plan that enables employees to voluntarily elect, in advance of any of the four quarterly offering periods ending March 31, June 30, September 30 and December 31 of each year, to contribute up to 10% of their eligible compensation, subject to certain limitations, to purchase ordinary shares at 90% of the lower of the closing price of Endo ordinary shares on the first or last trading day of each offering period. The maximum number of shares that a participant may purchase in any calendar year is equal to $25,000 divided by the closing selling price per ordinary share on the first day of the offering period, subject to certain adjustments. Compensation expense is calculated in accordance with the applicable accounting guidance and is based on the share price at the beginning or end of each offering period and the purchase discount. Obligations under the ESPP may be satisfied by the reissuance of treasury stock, by the Company's purchase of shares on the open market or by the authorization of new shares. The maximum number of shares available under the ESPP, pursuant to the terms of the ESPP plan document, is 1% of the common shares outstanding on April 15, 2011 or approximately 1.2 million shares. The ESPP shall continue in effect until the earlier of (i) the date when no shares are available for issuance under the ESPP, at which time the ESPP shall be suspended pursuant to the terms of the ESPP plan document, or (ii) December 31, 2022, unless earlier terminated. The ESPP has been suspended effective January 1, 2017. Compensation expense during the years ended December 31, 2016, 2015 and 2014 related to the ESPP totaled $0.8 million, $0.8 million and $0.6 million respectively. The Company issued 306,918 ordinary shares with a cost totaling $5.1 million during the year ended December 31, 2016 pursuant to the ESPP, 67,867 ordinary shares with a cost totaling $4.3 million during the year ended December 31, 2015 and 75,450 ordinary shares with a cost totaling $4.6 million during the year ended December 31, 2014.

NOTE 18. OTHER (INCOME) EXPENSE, NET

The components of Other (income) expense, net for the years ended December 31 are as follows (in thousands):

	2016	2015	2014
Net gain on sale of certain early-stage drug discovery and development assets	$ —	$ —	$ (5,200)
Foreign currency loss (gain), net	2,991	(23,058)	(10,054)
Equity (earnings) loss from unconsolidated subsidiaries, net	(1,190)	3,217	(8,325)
Other-than-temporary impairment of equity investment	—	18,869	—
Legal settlement	—	(12,500)	—
Costs associated with unused financing commitments	—	78,352	—
Other miscellaneous, net	(2,139)	(1,189)	(8,745)
Other (income) expense, net	$ (338)	$ 63,691	$ (32,324)

Foreign currency loss (gain), net results from the remeasurement of the Company's foreign currency denominated assets and liabilities. During 2015, the Company recognized an other-than-temporary impairment of its Litha joint venture investment totaling $18.9 million, reflecting the excess carrying value of this investment over its estimated fair value. In addition, the Company incurred $78.4 million during 2015 related to unused commitment fees primarily associated with financing for the Par acquisition.

NOTE 19. INCOME TAXES

Our operations are conducted through our various subsidiaries in numerous jurisdictions throughout the world. We have provided for income taxes based upon the tax laws and rates in the countries in which our operations are conducted.

The components of our (loss) income from continuing operations before income tax by geography for the years ended December 31 are as follows (in thousands):

	2016	2015	2014
United States	$ (4,309,211)	$ (626,740)	$ (33,459)
International	385,355	(811,124)	133,334
Total (loss) income from continuing operations before income tax	$ (3,923,856)	$ (1,437,864)	$ 99,875

Income tax from continuing operations consists of the following for the years ended December 31 (in thousands):

	2016	2015	2014
Current:			
U.S. Federal	$ 18,369	$ (308,909)	$ 30,385
U.S. State	9,501	(5,600)	16,270
International	22,851	16,722	(2,550)
Total current income tax	$ 50,721	$ (297,787)	$ 44,105
Deferred:			
U.S. Federal	$ (661,484)	$ (779,757)	$ (31,922)
U.S. State	(239)	(70,221)	(7,740)
International	(83,619)	(9,376)	(620)
Total deferred income tax	$ (745,342)	$ (859,354)	$ (40,282)
Excess tax benefits of stock compensation exercised	$ (5,463)	$ 19,676	$ 33,501
Valuation allowance	—	—	943
Total income tax	$ (700,084)	$ (1,137,465)	$ 38,267

A reconciliation of income tax from continuing operations at the U.S. federal statutory income tax rate to the total income tax provision from continuing operations for the years ended December 31 is as follows (in thousands):

	2016	2015	2014
Notional U.S. federal income tax provision at the statutory rate	$ (1,373,350)	$ (503,271)	$ 34,956
State income tax, net of federal benefit	5,182	(45,823)	10,095
Research and development credit	(3,549)	(5,549)	(2,535)
Uncertain tax positions	(18,111)	30,974	2,494
Residual tax on non-U.S. net earnings	(301,666)	(359,831)	(52,246)
Effects of outside basis differences	(636,134)	(786,130)	—
Non-deductible goodwill impairment	926,881	248,403	—
Change in valuation allowance	762,604	278,339	952
Intra-entity transfers of assets	(92,859)	—	—
Effect of permanent items:			
Branded prescription drug fee	4,090	10,753	16,336
Domestic production activities deduction	—	—	5,468
Transaction-related expenses	229	9,872	5,889
Excise tax	—	—	15,398
Executive compensation limitation	—	467	3,590
Extinguishment of debt	—	—	(5,802)
Share based compensation	614	950	2,227
Audit settlements	—	—	(1,875)
Other	25,985	(16,619)	3,320
Income tax	$ (700,084)	$ (1,137,465)	$ 38,267

During the year ended December 31, 2016, the Company recorded a $636.1 million net tax benefit related to worthless stock deductions that are reflected as a component of benefits from outside basis differences. During the year ended December 31, 2015, the Company recorded a $674.2 million net tax benefit predominately related to a worthless stock deduction directly attributable to mesh product liability losses that is reflected as a component of benefits from outside basis differences. The Company claimed the worthless stock deduction on its 2015 U.S. Federal and State income tax returns.

Deferred income taxes result from temporary differences between the amount of assets and liabilities recognized for financial reporting and tax purposes. The components of the net deferred income tax liability were as follows, excluding assets and liabilities held for sale, shown on the balance sheets for the years ended December 31 are as follows (in thousands):

	2016	2015
Deferred tax assets:		
Accrued expenses and customer allowances	$ 232,101	$ 286,620
Compensation related to stock options	24,246	22,532
Deferred interest expense	57,440	290,600
Fixed assets and intangible assets	55,473	—
Loss on capital assets	9,904	7,210
Net operating loss carryforward	4,410,386	635,030
Other	30,262	7,564
Research and development credit carryforward	4,244	56,489
Tax credit carryforwards	4,520	96,952
Uncertain tax positions	10,562	8,211
Total gross deferred income tax assets	$ 4,839,138	$ 1,411,208
Deferred tax liabilities:		
Fixed assets and intangible assets	$ —	$ (1,759,009)
Other	—	(25,978)
Outside basis difference	(182,409)	(59,434)
Prepaid royalties	—	(413)
Total gross deferred income tax liabilities	$ (182,409)	$ (1,844,834)
Valuation allowance	(4,841,209)	(426,991)
Net deferred income tax liability	$ (184,480)	$ (860,617)

At December 31, 2016, the Company had the following significant deferred tax assets for certain tax credits net of unrecognized tax benefits (in thousands):

Jurisdiction	2016	Begin to Expire
Canada		
Investment tax credits	$ 9,072	2022
United States		
Research and development credits	$ 4,244	2026

At December 31, 2016, the Company had the following significant deferred tax assets for net operating and capital loss carryforwards for tax purposes net of unrecognized tax benefits (in thousands):

Jurisdiction	2016	Begin to Expire
Ireland	$ 11,758	Indefinite
Luxembourg	$ 4,246,531	Indefinite
United States:		
Federal ordinary losses	$ 41,087	2020
State-capital losses	$ 5,044	2026
State-ordinary losses	$ 98,645	2017

A valuation allowance is required when it is more likely than not that all, or a portion of, a deferred tax asset will not be realized. The Company assesses the available positive and negative evidence to estimate if sufficient future taxable income will be generated to use the existing deferred tax assets. The amount of the deferred tax asset considered realizable, however, could be adjusted if estimates of future taxable income during the carryforward period are reduced or increased, or if objective negative evidence, in the form of cumulative losses, is no longer present and additional weight may be given to subjective evidence, such as projections for growth.

The Company has recorded a valuation allowance against certain jurisdictional net operating loss carryforwards and other tax attributes. As of December 31, 2016 and 2015, the valuation allowance was $4,841.2 million and $427.0 million, respectively. During the years ended December 31, 2016 and 2015, the Company increased its valuation allowance in the amount of $4,414.2 million and $386.3 million, respectively. The net increase in the Company's valuation allowance as of December 31, 2016 was primarily split into three main components: $3,950.1 million related to losses within jurisdictions unable to support recognition of a deferred tax asset with the largest jurisdiction being Luxembourg, where the Company recognized a material loss on its investment in the equity of consolidated subsidiaries, $67.1 million relating to state tax benefits and $400.8 million related to recording a valuation allowance on U. S. deferred tax assets. The net increase in the Company's valuation allowance as of December 31, 2015 was primarily split into three main components: $14.7 million related to acquisitions, $25.9 million relating to state tax benefits, and $349.4 million relating to losses within jurisdictions that the Company was unable to support the recognition of a deferred tax asset.

At December 31, 2016, the Company had the following significant valuation allowances for tax purposes (in thousands):

Jurisdiction	2016
Canada	$ 2,692
Ireland	$ 66,983
Luxembourg	$ 4,246,531
Mexico	$ 1,063
Netherlands	$ 1,367
South Africa	$ 26,240
United States	$ 521,064

We have provided income taxes for earnings that are currently distributed as well as the taxes associated with certain earnings that are expected to be distributed in the future. No additional provision has been made for Irish and non-Irish income taxes on the undistributed earnings of subsidiaries or for unrecognized deferred tax liabilities for temporary differences related to basis differences in investments in subsidiaries, as such earnings are expected to be indefinitely reinvested, the investments are essentially permanent in duration, or we have concluded that no additional tax liability will arise as a result of the distribution of such earnings. As of December 31, 2016, certain subsidiaries had approximately $157.3 million of cumulative undistributed earnings that have been retained indefinitely and reinvested in our global operations, including working capital; property, plant and equipment; intangible assets; and research and development activities. A liability could arise if our intention to indefinitely reinvest such earnings were to change and amounts are distributed by such subsidiaries or if such subsidiaries are ultimately disposed. It is not practicable to estimate the additional income taxes related to indefinitely reinvested earnings or the basis differences related to investments in subsidiaries. Our current plans do not demonstrate a need to repatriate cash and cash equivalents that are designated as indefinitely reinvested in order to fund our operations, including investing and financing activities.

The Company and its subsidiaries are subject to income taxes in the U.S., various states and numerous foreign jurisdictions with varying statutes as to which tax years are subject to examination by the tax authorities. The Company has taken positions on its tax returns that may be challenged by various tax authorities for which reserves have been established for tax-related uncertainties. These accruals for tax-related uncertainties are based on the Company's best estimate of the potential tax exposures. When particular matters arise, a number of years may elapse before such matters are audited and finally resolved. Favorable resolution of such matters could be recognized as a reduction of the Company's effective tax rate in the year of resolution. Resolution of any particular issue could increase the effective tax rate and may require the use of cash in the year of resolution.

As of December 31, 2016, the Company had total unrecognized income tax benefits of $443.6 million. If recognized in future years, $435.4 million of these currently unrecognized income tax benefits would impact the income tax provision and effective tax rate. As of December 31, 2015, the Company had total unrecognized tax benefits of $328.9 million. If recognized in future years, $293.3 million of these unrecognized income tax benefits would impact the income tax provision and effective tax rate. The following table summarizes the activity related to unrecognized income tax benefits (in thousands):

	Unrecognized Tax Benefit Federal, State, and Foreign Tax
UTB Balance at January 1, 2014	$ 58,629
Gross additions for current year positions	6,008
Gross additions for prior period positions	873
Gross reductions for prior period positions	(6,647)
Decrease due to lapse of statute of limitations	(5,067)
Decrease due to settlements	(597)
Additions related to acquisitions	54,750
Currency translation adjustment	(2,619)
UTB Balance at December 31, 2014	$ 105,330
Gross additions for current year positions	65,439
Gross reductions for prior period positions	(234)
Gross additions for prior period positions	3,460
Decrease due to lapse of statute of limitations	(75)
Additions related to acquisitions	150,152
Currency translation adjustment	(7,825)
UTB Balance at December 31, 2015	$ 316,247
Gross additions for current year positions	142,778
Gross reductions for prior period positions	(35,888)
Gross additions for prior period positions	2,111
Decrease due to lapse of statute of limitations	(3,085)
Additions related to acquisitions	2,350
Currency translation adjustment	88
UTB Balance at December 31, 2016	$ 424,601
Accrued interest and penalties	18,981
Total UTB balance including accrued interest and penalties	$ 443,582
Current portion	$ —
Non-current portion	$ 443,582

The Company records accrued interest as well as penalties related to uncertain tax positions as part of the provision for income taxes. As of December 31, 2016, we had recorded $19.0 million of accrued interest and penalties related to uncertain tax positions on the Consolidated Balance Sheet, all of which was recorded in income taxes. As of December 31, 2015, the balance of accrued interest and penalties was $12.7 million, all of which was recorded in income taxes. During the years ended December 31, 2016, 2015, and 2014, we recognized expense of $5.1 million, $1.6 million and $4.6 million, respectively, related to interest and penalties.

Our non-U.S. subsidiaries file income tax returns in the countries in which they have operations. Generally, these countries have statutes of limitations ranging from three to 10 years. Various non-U.S. subsidiary income tax returns are currently in the process of examination by taxing authorities.

It is expected that the amount of unrecognized tax benefits will change during the next twelve months; however, the Company does not anticipate any adjustments that would lead to a material impact on our results of operations or our financial position.

As of December 31, 2016, under applicable statutes, the following tax years remained subject to examination in the major tax jurisdictions indicated:

Jurisdiction	Open Years
Canada	2011 through 2016
India	2011 through 2016
Ireland	2013 through 2016
Luxembourg	2013 through 2016
Mexico	2011 through 2016
South Africa	2010 through 2016
United States - federal, state and local	2006 through 2016

NOTE 20. NET LOSS PER SHARE

The following is a reconciliation of the numerator and denominator of basic and diluted net loss per share for the years ended December 31 (in thousands):

	2016	2015	2014
Numerator:			
(Loss) income from continuing operations	$ (3,223,772)	$ (300,399)	$ 61,608
Less: Net income (loss) from continuing operations attributable to noncontrolling interests	16	(283)	(399)
(Loss) income from continuing operations attributable to Endo International plc ordinary shareholders	$ (3,223,788)	$ (300,116)	62,007
Loss from discontinued operations attributable to Endo International plc ordinary shareholders, net of tax	(123,278)	(1,194,926)	(783,326)
Net loss attributable to Endo International plc ordinary shareholders	$ (3,347,066)	$ (1,495,042)	$ (721,319)
Denominator:			
For basic per share data—weighted average shares	222,651	197,100	146,896
Dilutive effect of ordinary share equivalents	—	—	2,600
Dilutive effect of various convertible notes and warrants	—	—	7,234
For diluted per share data—weighted average shares	222,651	197,100	156,730

Basic net loss per share data is computed based on the weighted average number of ordinary shares outstanding during the period. Diluted loss per share data is computed based on the weighted average number of ordinary shares outstanding and, if there is net income from continuing operations attributable to Endo ordinary shareholders during the period, the dilutive impact of ordinary share equivalents outstanding during the period. Ordinary share equivalents are measured under the treasury stock method.

All stock options and stock awards were excluded from the diluted share calculation for the years ended December 31, 2016 and 2015 because their effect would have been anti-dilutive, as the Company was in a loss position. For the year ended December 31, 2014, stock options and stock awards of 0.7 million were excluded from the diluted share calculation because their effect would have been anti-dilutive.

The 1.75% Convertible Senior Subordinated Notes due April 15, 2015 were only included in the dilutive net loss per share calculations using the treasury stock method during periods in which the average market price of our ordinary shares was above the applicable conversion price of the Convertible Notes, or $29.20 per share, and the impact would not have been anti-dilutive. In these periods, under the treasury stock method, we calculated the number of shares issuable under the terms of these notes based on the average market price of the shares during the period, and included that number in the total diluted shares outstanding for the period.

We entered into convertible note hedge and warrant agreements, which have subsequently been settled, that, in combination, had the economic effect of reducing the dilutive impact of the Convertible Notes. However, we separately analyzed the impact of the convertible note hedge and the warrant agreements on diluted weighted average shares outstanding. As a result, the purchases of the convertible note hedges were excluded because their impact would have been anti-dilutive. The treasury stock method was applied when the warrants were in-the-money with the proceeds from the exercise of the warrant used to repurchase shares based on the average share price in the calculation of diluted weighted average shares. Until the warrants were in-the-money, they had no impact to the diluted weighted average share calculation.

The dilutive impact of the 1.50% convertible senior notes due 2018 was calculated using the if-converted method, assuming the notes were converted at the time of issuance.

NOTE 21. SAVINGS AND INVESTMENT PLAN AND DEFERRED COMPENSATION PLANS

Savings and Investment Plan

Endo established a defined contribution Savings and Investment Plan (the Endo 401(k) Plan) covering all employees. Employee contributions can be made on a pre-tax basis under section 401(k) of the Internal Revenue Code (the Code). Effective January 1, 2014, the Company will match 100% of the first 3% of eligible cash compensation that a participant contributes to the Endo 401(k) Plan plus 50% of the next 2% for a total of up to 4% of the participants' contributions subject to limitations under section 401(k) of the Code. Participants are immediately vested with respect to their own contributions and the Company's matching contributions.

Costs incurred for contributions made by us to the 401(k) plans amounted to $11.5 million, $8.6 million and $7.5 million for the years ended December 31, 2016, 2015 and 2014, respectively.

Executive Deferred Compensation Plan

In December 2007, the Board of Directors adopted an executive deferred compensation plan (the Executive Deferred Compensation Plan) and a 401(k) restoration plan (the 401(k) Restoration Plan) both effective as of January 1, 2008. Both plans cover employees earning over the Internal Revenue Code plan compensation limit, which would include the chief executive officer, chief financial officer and other named executive officers. The Executive Deferred Compensation Plan allows for deferral of up to 50% of the bonus, with payout to occur as elected, either in a lump sum or in installments, and up to 100% of restricted stock units granted, with payout to occur either in a lump sum or in installments. Under the 401(k) Restoration Plan the participant may defer the amount of base salary and bonus that would have been deferrable under the Endo 401(k) Plan (up to 50% of salary and bonus) if not for the qualified plan statutory limits on deferrals and contributions. Payment occurs as elected, either in lump sum or in installments.

Directors Stock Election Plan

In December 2007, Endo established a directors stock election plan. The purpose of this plan is to provide non-employee directors the opportunity to have some, or all of their retainer fees delivered in the form of Endo ordinary shares. The amount of shares will be determined by dividing the portion of cash fees elected to be received as shares by the closing price of the shares on the day the payment would have otherwise been paid in cash.

NOTE 22. SUBSEQUENT EVENTS

Disposition of Litha Business

On February 27, 2017, the Company entered into a definitive agreement to sell Litha to Acino Pharma AG for up to $100 million in cash. The purchase price payable at the closing is subject to adjustments, including net working capital and net indebtedness adjustments. The transaction is expected to close in the second quarter of 2017 and is subject to customary conditions, including the expiration or termination of any applicable waiting periods under applicable competition laws. The assets and liabilities of the Litha business are classified as held for sale in the Consolidated Balance Sheet as of December 31, 2016. Refer to Note 3. Discontinued Operations and Held for Sale for further discussion.

NOTE 23. QUARTERLY FINANCIAL DATA (UNAUDITED)

	Quarter Ended			
	March 31,	June 30,	September 30,	December 31,
	(in thousands, except per share data)			
2016 (1)				
Total revenues	$ 963,539	$ 920,887	$ 884,335	$ 1,241,513
Gross profit	$ 274,834	$ 288,669	$ 326,863	$ 484,935
(Loss) income from continuing operations	$ (88,763)	$ 389,812	$ (191,496)	$ (3,333,325)
Discontinued operations, net of tax	$ (45,108)	$ (46,216)	$ (27,423)	$ (4,531)
Net (loss) income attributable to Endo International plc	$ (133,869)	$ 343,578	$ (218,919)	$ (3,337,856)
Net (loss) income per share attributable to Endo International plc ordinary shareholders—Basic:				
Continuing operations	$ (0.40)	$ 1.75	$ (0.86)	$ (14.96)
Discontinued operations	(0.20)	(0.21)	(0.12)	(0.02)
Basic	$ (0.60)	$ 1.54	$ (0.98)	$ (14.98)
Net (loss) income per share attributable to Endo International plc ordinary shareholders—Diluted:				
Continuing operations	$ (0.40)	$ 1.75	$ (0.86)	$ (14.96)
Discontinued operations	(0.20)	(0.21)	(0.12)	(0.02)
Diluted	$ (0.60)	$ 1.54	$ (0.98)	$ (14.98)
Weighted average shares—Basic	222,302	222,667	222,767	222,870
Weighted average shares—Diluted	222,302	222,863	222,767	222,870
2015 (2)				
Total revenues	$ 714,128	$ 735,166	$ 745,727	$ 1,073,697
Gross profit	$ 329,862	$ 296,308	$ 303,268	$ 263,629
Income (loss) from continuing operations	$ 150,492	$ (90,894)	$ (803,706)	$ 443,709
Discontinued operations, net of tax	$ (226,210)	$ (159,632)	$ (246,782)	$ (562,302)
Net loss attributable to Endo International plc	$ (75,718)	$ (250,419)	$ (1,050,442)	$ (118,463)
Net loss per share attributable to Endo International plc ordinary shareholders—Basic:				
Continuing operations	$ 0.89	$ (0.49)	$ (3.84)	$ 1.98
Discontinued operations	(1.34)	(0.86)	(1.18)	(2.51)
Basic	$ (0.45)	$ (1.35)	$ (5.02)	$ (0.53)
Net loss per share attributable to Endo International plc ordinary shareholders—Diluted:				
Continuing operations	$ 0.85	$ (0.49)	$ (3.84)	$ 1.97
Discontinued operations	(1.28)	(0.86)	(1.18)	(2.50)
Diluted	$ (0.43)	$ (1.35)	$ (5.02)	$ (0.53)
Weighted average shares—Basic	169,653	185,328	209,274	224,147
Weighted average shares—Diluted	176,825	185,328	209,274	225,321

(1) (Loss) income from continuing operations for the year ended December 31, 2016 was impacted by (1) acquisition-related and integration items of $12.6 million, $48.2 million, $19.5 million and $7.4 million during the first, second, third and fourth quarters, respectively; these costs are net of a benefit due to changes in the fair value of contingent consideration of $10.7 million and $1.0 million during the first and fourth quarters, respectively, and include charges of $23.9 million and $11.6 million during the second and third quarters, respectively (2) asset impairment charges of $129.6 million, $40.0 million, $93.5 million and $3,518.1 million during the first, second, third and fourth quarters, respectively (3) inventory step-up and certain manufacturing costs that will be eliminated pursuant to integration plans of $68.5 million, $29.1 million, $14.2 million and $13.9 million during the first, second, third and fourth quarters, respectively (4) certain integration costs and separation benefits incurred in connection with continued efforts to enhance the Company's operations and other miscellaneous costs of $38.5 million, $22.2 million, $9.8 million and $37.1 million during the first, second, third and fourth quarters, respectively, and (5) other charges related to litigation-related and other contingent matters totaling $5.2 million, $5.3 million and $18.3 million during the first, second and third quarters, respectively, and a reduction of charges of $4.8 million during the fourth quarter.

(2) Income (loss) from continuing operations for the year ended December 31, 2015 was impacted by (1) acquisition-related and integration items of $34.6 million, $44.2 million, $(27.7) million and $54.1 million during the first, second, third and fourth quarters, respectively; these costs are net of a benefit due to changes in the fair value of contingent consideration of $0.8 million, $2.5 million, and $80.3 million during the first, second and third quarters, respectively and a charge of $17.9 million during the fourth quarter (2) asset impairment charges of $7.0 million, $70.2 million, $923.6 million and $139.9 million during the first, second, third and fourth quarters (3) inventory step-up and certain manufacturing costs that will be eliminated pursuant to integration plans of $39.9 million, $48.9 million, $42.9 million and $117.7 million during the first, second, third and fourth quarters, respectively (4) certain integration costs and separation benefits incurred in connection with continued efforts to enhance the Company's operations and other miscellaneous costs of $41.8 million, $5.8 million, $22.7 million and $55.2 million during the first, second, third and fourth quarters, respectively (5) other charges related to litigation-related and other contingent matters totaling $13.0 million, $6.9 million and $17.2 million during the first, second and fourth quarters, respectively (6) loss on extinguishment of debt of $1.0 million, $40.9 million and $25.6 million during the first, third and fourth quarters, respectively (7) costs associated with unused financing commitments of $11.8 million, $2.3 million and $64.3 million during the first, second and third quarters, respectively, (8) a charge of $18.9 million for an other-than-temporary impairment of equity investment of during the second quarter and (9) a charge of $37.6 million for the acceleration of Auxilium employee equity awards at closing during the first quarter.

Quarterly and year to date computations of per share amounts are made independently, therefore, the sum of the per share amounts for the quarters may not equal the per share amounts for the year.

The operating results of the AMS business are reported as Discontinued operations, net of tax in the Consolidated Statements of Operations for all periods presented. For additional information, see Note 3. Discontinued Operations and Held for Sale.

Exhibit Index

Exhibit No.	Title
2.1	Agreement and Plan of Merger by and among Generics International (US), Inc., DAVA Pharmaceuticals, Inc. and certain other parties listed therein, dated June 24, 2014 (incorporated by reference to Exhibit 10.1 of the Endo International plc Current Report on Form 8-K, filed with the Commission on June 26, 2014)
2.2	Purchase Agreement, dated March 2, 2015, by and among American Medical Systems Holdings, Inc., Endo Health Solutions Inc., and Boston Scientific Corporation (incorporated by reference to Exhibit 10.239 of the Endo International plc Quarterly Report on Form 10-Q for the quarter ended March 31, 2015, filed with the Commission May 11, 2015)
2.3	Agreement and Plan of Merger, dated as of May 18, 2015, by and among Par Pharmaceutical Holdings, Inc., a Delaware corporation, Endo International plc, a public limited company incorporated under the laws of Ireland, Endo Limited, a private limited company incorporated under the laws of Ireland, Endo Health Solutions Inc., a Delaware corporation, Banyuls Limited, a private limited company incorporated under the laws of Ireland, Hawk Acquisition ULC, a Bermudian unlimited liability company and Shareholder Representative Services LLC, a Colorado limited liability company, solely as the Stakeholder Representative (as defined therein) (incorporated by reference to Exhibit 2.1 of the Endo International plc Current Report on Form 8-K, filed with the Commission on May 21, 2015)
3.1	Certificate of Incorporation on re-registration as a public limited company of Endo International plc (incorporated by reference to Exhibit 3.1 of the Endo International plc Current Report on Form 8-K12B, filed with the Commission on February 28, 2014)
3.2	Memorandum and Articles of Association of Endo International plc (incorporated by reference to Exhibit 3.2 of the Endo International plc Current Report on Form 8-K12B, filed with the Commission on February 28, 2014)
4.1	Specimen Share Certificate of Endo International plc (incorporated by reference to Exhibit 4.3 of the Endo International plc Form S-8, filed with the Commission on February 28, 2014)
4.2	Indenture among the Company, the guarantors named therein and Wells Fargo Bank, National Association, as trustee, dated June 8, 2011 (including Form of 7 1/4% Senior Notes due 2022 and Form of Supplemental Indenture relating to the 7 1/4% Senior Notes due 2022) (incorporated by reference to Exhibit 4.3 of the Endo Health Solutions Inc. Current Report on Form 8-K, filed with the Commission on June 9, 2011)
4.3	Fourth Supplemental Indenture, among Generics Bidco II, LLC, Generics International (US Holdco), Inc., Generics International (US Midco), Inc., Generics International (US Parent), Inc., Moores Mill Properties L.L.C., Quartz Specialty Pharmaceuticals, LLC and Wood Park Properties LLC, as guaranteeing subsidiaries, Endo, the guarantors named therein and Wells Fargo Bank, National Association, as trustee, dated September 26, 2011, to the Indenture among Endo, the guarantors named therein and Wells Fargo Bank, National Association, as trustee, dated June 8, 2011 (incorporated by reference to Exhibit 10.157 of the Endo Health Solutions Inc. Annual Report on Form 10-K for the year ended December 31, 2013, filed with the Commission on March 3, 2014)
4.4	Fifth Supplemental Indenture, among Endo Health Solutions Inc., the guarantors named therein and Wells Fargo Bank, National Association, as trustee, dated as of April 17, 2014, to the Indenture among Endo Health Solutions Inc., the guarantors named therein and Wells Fargo Bank, National Association, as trustee, dated as of June 8, 2011, governing Endo Health Solutions Inc.'s 7 1/4% Senior Notes due 2022 (incorporated by reference to Exhibit 10.3 of the Endo International plc Current Report on Form 8-K, filed with the Commission on April 17, 2014)
4.5	Indenture, dated December 19, 2013, between Endo Finance Co. and Wells Fargo Bank, National Association, as trustee (including Form of 5.75% Senior Notes due 2022 and Form of Supplemental Indenture relating to the 5.75% Senior Notes due 2022) (incorporated by reference to Exhibit 4.1 of the Endo Health Solutions Inc. Current Report on Form 8-K, filed with the Commission on December 19, 2013)
4.6	Supplemental Indenture, dated February 28, 2014, among Endo Finance LLC, Endo Finco Inc., the guarantors named therein and Wells Fargo Bank, National Association, as trustee, to the Indenture, dated December 19, 2013 (incorporated by reference to Exhibit 4.1 of Endo International plc's Current Report on Form 8-K, filed with the Commission on February 28, 2014)
4.7	Supplemental Indenture, dated March 27, 2015, among Endo Finance LLC, Endo Finco Inc., the guarantors named therein and Wells Fargo Bank, National Association, as trustee, to the Indenture, dated December 19, 2013 (incorporated by reference to Exhibit 4.7 of Endo International plc Annual Report on Form 10-K for the year ended December 31, 2015, filed with the Commission on February 29, 2016)
4.8	Indenture, dated May 6, 2014, among Endo Finance LLC, Endo Finco Inc. the guarantors named therein and Wells Fargo Bank, National Association, as trustee, relating to the 7.25% Senior Notes due 2022 (including Form of 7.25% Senior Notes due 2022 and Form of Supplemental Indenture relating to the 7.25% Senior Notes due 2022) (incorporated by reference to Exhibit 10.5 of the Endo International plc Current Report on Form 8-K, filed with the Commission on May 7, 2014)

4.9	Supplemental Indenture, dated March 27, 2015, among Endo Finance LLC, Endo Finco Inc., the guarantors named therein and Wells Fargo Bank, National Association, as trustee, to the Indenture, dated May 6, 2014 (incorporated by reference to Exhibit 4.9 of Endo International plc Annual Report on Form 10-K for the year ended December 31, 2015, filed with the Commission on February 29, 2016)
4.10	Registration Rights Agreement, dated May 6, 2014, by and among Endo Finance LLC, Endo Finco Inc. the guarantors named therein and RBC Capital Markets, LLC and Deutsche Bank Securities Inc., relating to the 7.25% Senior Notes due 2022 (including Form of Counterpart to the Registration Rights Agreement relating to the 7.25% Senior Notes due 2022) (incorporated by reference to Exhibit 10.9 of the Endo International plc Current Report on Form 8-K, filed with the Commission on May 7, 2014)
4.11	Indenture, dated June 30, 2014, among Endo Finance LLC, Endo Finco Inc., the guarantors named therein and Wells Fargo Bank, National Association, as trustee, relating to the 5.375% Senior Notes due 2023 (including Form of 5.375% Senior Notes due 2023 and Form of Supplemental Indenture relating to the 5.375% Senior Notes due 2023) (incorporated by reference to Exhibit 10.1 of the Endo International plc Current Report on Form 8-K, filed with the Commission on July 1, 2014)
4.12	Supplemental Indenture, dated March 27, 2015, among Endo Finance LLC, Endo Finco Inc., the guarantors named therein and Wells Fargo Bank, National Association, as trustee, to the Indenture, dated June 30, 2014 (incorporated by reference to Exhibit 4.12 of Endo International plc Annual Report on Form 10-K for the year ended December 31, 2015, filed with the Commission on February 29, 2016)
4.13	Registration Rights Agreement, dated June 30, 2014, by and among Endo Finance LLC, Endo Finco Inc., the guarantors named therein and Citigroup Global Markets Inc. and RBC Capital Markets, LLC, relating to the 5.375% Senior Notes due 2023 (including Form of Counterpart to the Registration Rights Agreement relating to the 5.375% Senior Notes due 2023) (incorporated by reference to Exhibit 10.3 of the Endo International plc Current Report on Form 8-K, filed with the Commission on July 1, 2014)
4.14	Indenture, dated January 27, 2015, among Endo Limited, Endo Finance LLC, Endo Finco Inc., the guarantors named therein and Wells Fargo Bank, National Association, as trustee, relating to the 6.00% Senior Notes due 2025 (including Form of 6.00% Senior Notes due 2025 and Form of Supplemental Indenture relating to the 6.00% Senior Notes due 2025) (incorporated by reference to Exhibit 10.1 of the Endo International plc Current Report on Form 8-K, filed with the Commission on January 27, 2015)
4.15	Supplemental Indenture, dated March 27, 2015, among Endo Limited, Endo Finance LLC, Endo Finco Inc., the guarantors named therein and Wells Fargo Bank, National Association, as trustee, to the Indenture, dated January 27, 2015 (incorporated by reference to Exhibit 4.15 of Endo International plc Annual Report on Form 10-K for the year ended December 31, 2015, filed with the Commission on February 29, 2016)
4.16	Registration Rights Agreement, dated January 27, 2015, by and among Endo Limited, Endo Finance LLC, Endo Finco Inc., the guarantors named therein and RBC Capital Markets, LLC and Citigroup Global Markets Inc., relating to the 6.00% Senior Notes due 2025 (including Form of Counterpart to the Registration Rights Agreement relating to the 6.00% Senior Notes due 2025) (incorporated by reference to Exhibit 10.3 of the Endo International plc Current Report on Form 8-K, filed with the Commission on January 27, 2015)
4.17	Indenture, dated July 9, 2015, among Endo Limited, Endo Finance LLC, Endo Finco Inc., the guarantors named therein and Wells Fargo Bank, National Association, as trustee, relating to the 6.000% Senior Notes due 2023 (including Form of 6.000% Notes due 2023 and Form of Supplemental Indenture relating to the 6.000% Notes due 2023) (incorporated by reference to Exhibit 10.1 of the Endo International plc Current Report on Form 8-K, filed with the Commission on July 9, 2015)
4.18	Shareholders Agreement, dated as of May 18, 2015, by and among Endo International plc and the signatories thereto (incorporated by reference to Exhibit 10.2 of the Endo International plc Current Report on Form 8-K, filed with the Commission on May 21, 2015)
4.18.1	Amendment to Shareholders and Registration Rights Agreements, dated as of May 5, 2016, by and among Endo International plc and the signatories thereto (incorporated by reference to Exhibit 10.1 of the Endo International plc Current Report on Form 8-K, filed with the Commission on May 5, 2016)
4.19	Registration Rights Agreement dated April 26, 2013, by and between Auxilium Pharmaceuticals, Inc., a Delaware corporation and GTCR Fund IX/A, L.P., a Delaware limited partnership, solely in its capacity as representative for the GTCR Fund IX/B, L.P., and the Actient Holdings LLC's Unitholders and Optionholders (incorporated by reference to Exhibit 10.2 to the Auxilium Current Report on Form 8-K, filed with the Commission on April 29, 2013)
4.20	Registration Rights Agreement, dated as of May 18, 2015, by and among Endo International plc and the persons listed on Schedule A thereto (incorporated by reference to Exhibit 10.1 of the Endo International plc Current Report on Form 8-K, filed with the Commission on May 21, 2015)
10.1	Amended and Restated Executive Deferred Compensation Plan (incorporated by reference to Exhibit 10.11 of the Endo Health Solutions Inc. Annual Report on Form 10-K for the year ended December 31, 2012, filed with the Commission on March 1, 2013)

10.2	Amended and Restated 401(k) Restoration Plan (incorporated by reference to Exhibit 10.12 of the Endo Health Solutions Inc. Annual Report on Form 10-K for the year ended December 31, 2012, filed with the Commission on March 1, 2013)
10.3	Directors Deferred Compensation Plan (incorporated by reference to Exhibit 10.13 of the Endo Health Solutions Inc. Annual Report on Form 10-K for the year ended December 31, 2012, filed with the Commission on March 1, 2013)
10.4*	Supply and Manufacturing Agreement, dated as of November 23, 1998, by and between Endo Pharmaceuticals and Teikoku Seiyaku Co., Ltd. (incorporated by reference to Exhibit 10.14 of the Endo Health Solutions Inc. Registration Statement filed with the Commission on June 9, 2000)
10.4.1*	First Amendment, dated April 24, 2007, to the Supply and Manufacturing Agreement, dated as of November 23, 1998, by and between Endo Pharmaceuticals and Teikoku Seiyaku Co., Ltd. / Teikoku Pharma USA, Inc. (incorporated by reference to Exhibit 10.14.1 of the Endo Health Solutions Inc. Current Report on Form 8-K, filed with the Commission on April 30, 2007)
10.4.2*	Second Amendment, effective December 16, 2009, to the Supply and Manufacturing Agreement, dated as of November 23, 1998 and as amended as of April 24, 2007, by and between Endo Pharmaceuticals and Teikoku Seiyaku Co., Ltd. / Teikoku Pharma USA, Inc. (incorporated by reference to Exhibit 10.14.2 of the Endo Health Solutions Inc. Current Report on Form 8-K, filed with the Commission on January 11, 2010)
10.4.3*	Third Amendment, effective November 1, 2010, to the Supply and Manufacturing Agreement, dated as of November 23, 1998 and as amended as of December 16, 2009, by and between Endo Pharmaceuticals and Teikoku Seiyaku Co., Ltd. / Teikoku Pharma USA, Inc. (incorporated by reference to Exhibit 10.14.3 of the Endo Health Solutions Inc. Form 10-Q for the Quarter ended September 30, 2010 filed with the Commission on November 2, 2010)
10.4.4*	Fourth Amendment, effective February 25, 2015, to the Supply and Manufacturing Agreement, dated as of November 23, 1998 and as amended as of November 1, 2010, by and between Endo Pharmaceuticals and Teikoku Seiyaku Co., Ltd. / Teikoku Pharma USA, Inc. (incorporated by reference to Exhibit 10.14.4 of the Endo International plc Annual Report on Form 10-K for the year ended December 31, 2014, filed with the Commission on March 2, 2015)
10.5*	Supply Agreement, dated as of April 27, 2012, between Endo Pharmaceuticals and Noramco, Inc. (incorporated by reference to Exhibit 10.17 of the Endo Health Solutions Inc. Quarterly Report on Form 10-Q for the Quarter Ended March 31, 2012, filed with the Commission on May 1, 2012)
10.5.1*	Third Amendment, dated as of January 1, 2015, to the Supply Agreement, dated as of April 27, 2012, as amended, between Endo Pharmaceuticals and Noramco, Inc. (incorporated by reference to Exhibit 10.5.1 of the Endo International plc Quarterly Report on Form 10-Q for the Quarter ended March 31, 2016, filed with the Commission on May 6, 2016)
10.5.2*	Fourth Amendment, dated as of October 22, 2015, to the Supply Agreement, dated as of April 27, 2012, as amended, between Endo Pharmaceuticals and Noramco, Inc. (incorporated by reference to Exhibit 10.5.2 of the Endo International plc Quarterly Report on Form 10-Q for the Quarter ended March 31, 2016, filed with the Commission on May 6, 2016)
10.5.3*	Fifth Amendment, dated as of April 25, 2016, to the Supply Agreement, dated as of April 27, 2012, as amended, between Endo Pharmaceuticals and Noramco, Inc. (incorporated by reference to Exhibit 10.5.3 of the Endo International plc Quarterly Report on Form 10-Q for the Quarter ended March 31, 2016, filed with the Commission on May 6, 2016)
10.6	Endo International plc Amended and Restated Employee Stock Purchase Plan (incorporated by reference to Exhibit 4.9 of the Endo International plc Form S-8, filed with the Commission on February 28, 2014)
10.7*	Development, License and Supply Agreement, dated as of December 18, 2007, between Endo Pharmaceuticals and Grünenthal GmbH (incorporated by reference to Exhibit 10.139 of the Endo Health Solutions Inc. Quarterly Report on Form 10-Q for the Quarter Ended March 31, 2012 filed with the Commission on May 1, 2012)
10.7.1*	First Amendment to Development, License and Supply Agreement, dated as of December 19, 2012, between Endo Pharmaceuticals and Grünenthal GmbH (incorporated by reference to Exhibit 10.139.1 of the Endo Health Solutions Inc. Form 10-K for the year ended December 31, 2012 filed with the Commission on March 1, 2013)
10.7.2*	Second Amendment to Development, License and Supply Agreement, dated as of February 18, 2014, between Endo Pharmaceuticals and Grünenthal GmbH (incorporated by reference to Exhibit 10.139.2 of the Endo Health Solutions Inc. Form 10-K for the year ended December 31, 2013 filed with the Commission on March 3, 2014)
10.8	Credit Agreement, dated as of February 28, 2014, among Endo Limited, Endo Management Limited, Endo Luxembourg Holding Company S.a.r.l., Endo Luxembourg Finance Company I S.a.r.l., Endo LLC (formerly known as NIMA Acquisition, LLC), the lenders from time to time party thereto, and Deutsche Bank AG New York Branch, as administrative agent, collateral agent, issuing bank and swingline lender (incorporated by reference to Exhibit 4.3 of the Endo International plc Current Report on Form 8-K, filed with the Commission on February 28, 2014)

10.8.1	Amendment No. 1 to Credit Agreement, dated as of June 12, 2015, by and among Endo Luxembourg Finance Company I S.à.r.l and Endo LLC, as borrowers, the subsidiary guarantors party thereto, the lenders and other financial institutions party thereto and Deutsche Bank AG New York Branch, as administrative agent (incorporated by reference to Exhibit 10.1 of the Endo International plc Current Report on Form 8-K, filed with the Commission on June 15, 2015)
10.8.2	Amendment No. 2 to Credit Agreement, dated as of January 31, 2017, by and among Endo Luxembourg Finance Company I S.à.r.l and Endo LLC, as borrowers, and Deutsche Bank AG New York Branch, as administrative agent (filed herewith)
10.8.3	Incremental Amendment, dated as of September 25, 2015, by and among Endo Designated Activity Company, Endo Management Limited, Endo Luxembourg Holding Company S.à r.l., Endo Luxembourg Finance Company I S.à.r.l., as borrower, Endo LLC, as borrower, the subsidiary guarantors party thereto, the lenders party thereto and Deutsche Bank AG New York Branch, as administrative agent (incorporated by reference to Exhibit 10.1 of the Endo International plc Current Report on Form 8-K, with the Commission on September 28, 2015)
10.9	Executive Employment Agreement between Endo Health Solutions Inc., a wholly-owned subsidiary of Endo International plc, and Susan Hall, dated as of March 6, 2014 and effective March 10, 2014 (incorporated by reference to Exhibit 10.1 of the Endo International plc Current Report on Form 8-K, filed with the Commission on March 13, 2014)
10.9.1	First Amendment to Executive Employment Agreement between Endo Health Solutions Inc., a wholly-owned subsidiary of Endo International plc, and Susan Hall, dated as of April 21, 2014 and effective April 22, 2014 (incorporated by reference to Exhibit 10.162.1 of the Endo International plc Quarterly Report on Form 10-Q for the Quarter ended March 31, 2014, filed with the Commission on May 9, 2014)
10.10*	Second Amended and Restated Development and License Agreement, dated August 31, 2011, by and between BioSpecifics Technologies Corp. and Auxilium (incorporated by reference to Exhibit 10.1 to the Auxilium Current Report on Form 8-K, filed with the Commission on September 1, 2011)
10.10.1*	First Amendment to Second Amended and Restated Development and License Agreement, dated February 1, 2016, by and between BioSpecifics Technologies Corp. and Endo Global Ventures (incorporated by reference to Exhibit 10.18.1 of Endo International plc Annual Report on Form 10-K for the year ended December 31, 2015, filed with the Commission on February 29, 2016)
10.11*	Supply Agreement, dated June 26, 2008, between Auxilium and Hollister-Stier Laboratories LLC (incorporated by reference to Exhibit 10.1 to the Auxilium Quarterly Report on Form 10-Q for the quarter ended June 30, 2008, filed with the Commission on August 8, 2008)
10.12	Executive Employment Agreement between Endo Health Solutions Inc. and Matthew J. Maletta, effective as of April 28, 2015 (incorporated by reference to Exhibit 10.1 of the Endo International plc Current Report on Form 8-K, filed with the Commission on April 30, 2015)
10.13	Endo International plc Amended and Restated 2015 Stock Incentive Plan (incorporated by reference to Exhibit 10.3 of the Endo International plc Quarterly Report on Form 10-Q for the Quarter ended June 30, 2016, filed with the Commission on August 9, 2016)
10.14	Form of Stock Option Agreement under the Endo International plc Amended and Restated 2015 Stock Incentive Plan (filed herewith)
10.15	Form of Stock Award Agreement under the Endo International plc Amended and Restated 2015 Stock Incentive Plan (filed herewith)
10.16	Form of Performance Award Agreement under the Endo International plc Amended and Restated 2015 Stock Incentive Plan (filed herewith)
10.17	Form of Long-Term Cash Incentive Award Agreement under the Amended and Restated 2015 Stock Incentive Plan (filed herewith)
10.18	Form of Matched Performance Award Agreement to Participant under the Endo International plc 2015 Stock Incentive Plan (incorporated by reference to Exhibit 10.276 of the Endo International plc Quarterly Report on Form 10-Q for the quarter ended June 30, 2015, filed with the Commission August 10, 2015)
10.19	License and Supply Agreement by and by and among Novartis, AG, Novartis Consumer Health, Inc. and Endo Pharmaceuticals dated as of March 4, 2008 (incorporated by reference to Exhibit 10.31 of the Endo International plc Quarterly Report on Form 10-Q for the quarter ended September 30, 2015, filed with the Commission November 9, 2015)
10.19.1	Amendment No. 1 to the License and Supply Agreement by and by and among Novartis, AG, Novartis Consumer Health, Inc. and Endo Pharmaceuticals dated as of March 28, 2008 (incorporated by reference to Exhibit 10.31.1 of the Endo International plc Quarterly Report on Form 10-Q for the quarter ended September 30, 2015, filed with the Commission November 9, 2015)

10.19.2	Amendment No. 2 to License and Supply Agreement, by and among Novartis AG, Novartis Consumer Health, Inc. and Endo Pharmaceuticals dated as of December 31, 2012 (incorporated by reference to Exhibit 10.31.2 of the Endo International plc Quarterly Report on Form 10-Q for the quarter ended September 30, 2015, filed with the Commission November 9, 2015)
10.20*	Amended and Restated License and Supply Agreement by and among Novartis, AG, Sandoz Inc. and Endo Ventures Limited dated as of December 11, 2015 (incorporated by reference to Exhibit 10.28 of Endo International plc Annual Report on Form 10-K for the year ended December 31, 2015, filed with the Commission on February 29, 2016)
10.20.1*	Letter Agreement by and among Novartis AG, Sandoz, Inc. and Endo Ventures Limited dated as of March 25, 2016 (incorporated by reference to Exhibit 10.28.1 of the Endo International plc Quarterly Report on Form 10-Q for the Quarter ended March 31, 2016, filed with the Commission on May 6, 2016)
10.21	Form of Indemnification Agreement with Endo Health Solutions Inc. (incorporated by reference to Exhibit 10.32 of Endo International plc Annual Report on Form 10-K for the year ended December 31, 2015, filed with the Commission on February 29, 2016)
10.22	Executive Employment Agreement between Endo Health Solutions, Inc. and Rajiv De Silva, effective as of March 18, 2016 (incorporated by reference to Exhibit 10.33 of Endo International plc Annual Report on Form 10-K for the year ended December 31, 2015, filed with the Commission on February 29, 2016)
10.23	Director Confidentiality Agreement, dated as of May 5, 2016, by and among Endo International plc, Todd B. Sisitsky and TPG Global, LLC (incorporated by reference to Exhibit 10.2 of the Endo International plc Current Report on Form 8-K, filed with the Commission on May 5, 2016)
10.24	Form of Indemnification Agreement with Endo International plc (incorporated by reference to Exhibit 10.35 of the Endo International plc Quarterly Report on Form 10-Q for the Quarter ended March 31, 2016, filed with the Commission on May 6, 2016)
10.25	Notice of Termination, effective as of April 27, 2017, of the Supply Agreement, dated as of April 27, 2012, by and between Endo Ventures Limited and Noramco, Inc. (incorporated by reference to Exhibit 10.1 of the Endo International plc Current Report on Form 8-K, filed with the Commission on July 18, 2016)
10.26*	Master Supply Agreement, dated as of April 22, 2016, by and between Endo Ventures Limited and Jubilant HollisterStier LLC (incorporated by reference to Exhibit 10.2 of the Endo International plc Quarterly Report on Form 10-Q for the Quarter ended June 30, 2016, filed with the Commission on August 9, 2016)
10.27	Executive Employment Agreement between Endo International plc and Suketu P. Upadhyay, dated as of August 3, 2016 and effective as of August 4, 2016 (incorporated by reference to Exhibit 10.4 of the Endo International plc Quarterly Report on Form 10-Q for the Quarter ended June 30, 2016, filed with the Commission on August 9, 2016)
10.28	Separation Agreement between Endo Health Solutions Inc. and Rajiv De Silva, dated as of September 22, 2016 (Incorporated by reference to Exhibit 10.1 of the Endo International plc Current Report on Form 8-K, filed with the Securities and Exchange Commission on September 28, 2016)
10.29	Executive Employment Agreement between Endo Health Solutions Inc. and Paul Campanelli, dated as of September 23, 2016 (Incorporated by reference to Exhibit 10.1 of the Endo International plc Current Report on Form 8-K, filed with the Securities and Exchange Commission on September 29, 2016)
10.30	Executive Employment Agreement between Endo Health Solutions Inc. and Terrance J. Coughlin, dated December 9, 2016 (Incorporated by reference to Exhibit 10.1 of the Endo International plc Current Report on Form 8-K/A, filed with the Securities and Exchange Commission on December 9, 2016)
10.31	Executive Employment Agreement between Endo Health Solutions Inc. and Blaise Coleman, dated December 22, 2016 (Incorporated by reference to Exhibit 10.1 of the Endo International plc Current Report on Form 8-K/A, filed with the Securities and Exchange Commission on December 22, 2016)
10.32	Separation Agreement and General Release between Endo Health Solutions Inc. and Susan Hall, dated as of December 21, 2016 (Incorporated by reference to Exhibit 10.1 of the Endo International plc Current Report on Form 8-K, filed with the Securities and Exchange Commission on December 22, 2016)
14.1	Code of Conduct of the Board of Directors, as amended and restated on May 3, 2016 (incorporated by reference to Exhibit 14.1 of the Endo International plc Current Report on Form 8-K, filed with the Commission on May 5, 2016)
16.1	Letter Regarding Change in Certifying Accountant, dated June 13, 2014 (incorporated by reference to Exhibit 16.1 of the Endo International plc Current Report on Form 8-K, filed with the Commission on June 13, 2014)
21.1	Subsidiaries of the Registrant
23.1	Consent of PricewaterhouseCoopers LLP

24	Power of Attorney
31.1	Certification of the President and Chief Executive Officer of Endo pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	Certification of the Chief Financial Officer of Endo pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1	Certification of the President and Chief Executive Officer of Endo pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2	Certification of the Chief Financial Officer of Endo pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101	The following materials from Endo International plc's Annual Report on Form 10-K for the year ended December 31, 2016, formatted in XBRL (eXtensible Business Reporting Language): (i) the Consolidated Balance Sheets, (ii) the Consolidated Statements of Operations, (iii) the Consolidated Statements of Comprehensive Loss, (iv) the Consolidated Statement of Stockholders' Equity, (v) the Consolidated Statements of Cash Flows and (vi) the Notes to Consolidated Financial Statements
*	Confidential portions of this exhibit (indicated by asterisks) have been redacted and filed separately with the Securities and Exchange Commission pursuant to a confidential treatment request in accordance with Rule 24b-2 of the Securities Exchange Act of 1934, as amended

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