IRONWOOD PHARMACEUTICALS INC
Form 10-K
February 19, 2016

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2015

OR

o **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 001-34620

IRONWOOD PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**04-3404176**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)
301 Binney Street Cambridge, Massachusetts	**02142**
(Address of Principal Executive Offices)	(Zip Code)

Registrant's telephone number, including area code: **(617) 621-7722**

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

Title of each class	**Name of each exchange on which registered**

Class A common stock, $0.001 par value	The NASDAQ Stock Market LLC (NASDAQ Global Select Market)

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 ý No o

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

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

Indicate by check mark whether the Registrant has submitted electronically and posted on its corporate Web site, 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 (or for such shorter period that the Registrant was required to submit and post such files). Yes ý No o

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. o

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 definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ý	Accelerated filer o	Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company o

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

Aggregate market value of voting stock held by non-affiliates of the Registrant as of June 30, 2015: $1,647,058,706

As of February 12, 2016, there were 127,453,930 shares of Class A common stock outstanding and 15,934,458 shares of Class B common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE:

Portions of the definitive proxy statement for our 2016 Annual Meeting of Stockholders are incorporated by reference into Part III of this report.

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NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K, including the sections titled "Business," "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" contains forward-looking statements. All statements contained in this Annual Report on Form 10-K other than statements of historical fact are forward-looking statements. Forward-looking statements include statements regarding our future financial position, business strategy, budgets, projected costs, plans and objectives of management for future operations. The words "may," "continue," "estimate," "intend," "plan," "will," "believe," "project," "expect," "seek," "anticipate," "goal" and similar expressions may identify forward-looking statements, but the absence of these words does not necessarily mean that a statement is not forward-looking. These forward-looking statements include, among other things, statements about:

- the demand and market potential for linaclotide in the United States, or the U.S. (LINZESS®), in the European Union, or the E.U. (CONSTELLA®), and in other countries where it is approved for marketing, as well as the revenues therefrom;

- the timing, investment and associated activities involved in commercializing LINZESS by us and Allergan plc in the U.S.;

- the timing and execution of the launches and commercialization of CONSTELLA in the E.U.;

- the timing, investment and associated activities involved in developing, launching, and commercializing linaclotide by us and our partners worldwide;

- our ability and the ability of our partners to secure and maintain adequate reimbursement for linaclotide;

- the ability of our partners and third-party manufacturers to manufacture and distribute sufficient amounts of linaclotide active pharmaceutical ingredient, or API, drug product and finished goods on a commercial scale;

- our expectations regarding U.S. and foreign regulatory requirements for linaclotide and our product candidates, including our post-approval, nonclinical and clinical post-marketing plan with the Food and Drug Administration, or the FDA;

- our partners' ability to obtain foreign regulatory approval of linaclotide and the ability of all of our product candidates to meet existing or future regulatory standards;

- the safety profile and related adverse events of linaclotide and our product candidates;

- the therapeutic benefits and effectiveness of linaclotide and our product candidates and the potential indications and market opportunities therefor;

- our ability to obtain and maintain intellectual property protection for linaclotide and our product candidates and the strength thereof;

- the ability of our partners to perform their obligations under our collaboration, license and other agreements with them, and our ability to achieve milestone and other payments under such agreements;

our plans with respect to the development, manufacture or sale of our product candidates and the associated timing thereof, including the design and results of pre-clinical and clinical studies;

the in-licensing or acquisition of externally discovered businesses, products or technologies;

our expectations as to future financial performance, revenues, expense levels, payments, cash flows, profitability, tax obligations, capital raising and liquidity sources, and real estate needs, as well as the timing and drivers thereof;

- our ability to repay our outstanding indebtedness when due, or redeem or repurchase all or a portion of such debt, as well as the potential benefits of the note hedge transactions described herein;
- inventory levels and write downs and the drivers thereof, and inventory purchase commitments;
- our ability to compete with other companies that are or may be developing or selling products that are competitive with our products and product candidates;
- the status of government regulation in the life sciences industry, particularly with respect to healthcare reform;
- trends and challenges in our potential markets;
- our ability to attract and motivate key personnel; and
- other factors discussed elsewhere in this Annual Report on Form 10-K.

Any or all of our forward-looking statements in this Annual Report on Form 10-K may turn out to be inaccurate. These forward-looking statements may be affected by inaccurate assumptions or by known or unknown risks and uncertainties, including the risks, uncertainties and assumptions identified under the heading "Risk Factors" in this Annual Report on Form 10-K. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this Annual Report on Form 10-K may not occur as contemplated, and actual results could differ materially from those anticipated or implied by the forward-looking statements.

You should not unduly rely on these forward-looking statements, which speak only as of the date of this Annual Report on Form 10-K. Unless required by law, we undertake no obligation to publicly update or revise any forward-looking statements to reflect new information or future events or otherwise. You should, however, review the factors and risks we describe in the reports we will file from time to time with the U.S. Securities and Exchange Commission, or the SEC, after the date of this Annual Report on Form 10-K.

NOTE REGARDING TRADEMARKS

LINZESS® and CONSTELLA® are trademarks of Ironwood Pharmaceuticals, Inc. Any other trademarks referred to in this Annual Report Form 10-K are the property of their respective owners.

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PART I

Item 1. ***Business***

Our Company

We are a commercial biotechnology company leveraging our proven development and commercial capabilities as we seek to bring multiple medicines to patients. We are advancing two therapeutic platforms, which include product opportunities in areas of large unmet need, including irritable bowel syndrome with constipation, or IBS-C, and chronic idiopathic constipation, or CIC, vascular and fibrotic diseases, and refractory gastroesophageal reflux disease, or GERD.

Our first and to-date only commercial product, linaclotide, is available to adult men and women suffering from IBS-C or CIC in the United States, or the U.S., under the trademarked name LINZESS®, and is available to adult men and women suffering from IBS-C in certain European countries under the trademarked name CONSTELLA®. We and our U.S. partner Allergan plc (together with its affiliates), or Allergan (formerly Actavis plc), are also advancing linaclotide colonic release, a second-generation product candidate with the potential to improve abdominal pain relief in adult IBS-C patients, as well as in patients with additional gastrointestinal, or GI, disorders where lower abdominal pain is a predominant symptom such as IBS-mixed, or IBS-M. Further, we and Allergan are exploring ways to enhance the clinical profile of LINZESS by seeking to expand its utility within IBS-C and CIC, as well as studying linaclotide in additional indications and populations to assess its potential to treat various GI conditions. Linaclotide is also being developed and commercialized in other parts of the world by certain of our partners. In addition, we are advancing other GI development programs for indications such as refractory GERD and diabetic gastroparesis.

Within our vascular/fibrotic platform, we are leveraging our pharmacological expertise in guanylate cyclase, or GC, pathways gained through the discovery and development of linaclotide to advance development programs targeting soluble guanylate cyclase, or sGC. sGC is a validated mechanism with the potential for broad therapeutic utility and multiple opportunities for product development in vascular and fibrotic diseases, as well as other therapeutic areas.

Our GI and vascular/fibrotic platforms include the following:

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The status of our development programs in the table above represents the ongoing phase of development, and does not correspond to the initiation or completion of a particular phase. Drug development involves a high degree of risk and investment, and the status, timing and scope of our development programs are subject to change. Important factors that could adversely affect our drug development efforts are discussed in the "Risk Factors" section of this Annual Report on Form 10-K. As part of the linaclotide colonic release Phase IIb clinical trial in IBS-C patients, we and Allergan are also evaluating a second colonic release formulation that is expected to inform a path forward in additional GI disorders, such as IBS-M. In its current target product profile, IW-9179 is a wholly owned asset.

LINZESS and our current product candidates have all been discovered internally. We believe our discovery team has created a number of promising candidates over the past few years and has developed an extensive intellectual property estate in each of these areas. We have committed significant resources into the research and development of our product candidates and intend to continue to do so for the foreseeable future. For the years ended December 31, 2015, 2014 and 2013, research and development expenses were approximately $108.7 million, $101.9 million and $102.4 million, respectively. In addition, we intend to access externally -discovered drug candidates that fit within our core strategy. In evaluating these potential assets, we apply the same investment criteria as those used for investments in internally discovered assets.

We were incorporated in Delaware on January 5, 1998 as Microbia, Inc. On April 7, 2008, we changed our name to Ironwood Pharmaceuticals, Inc. To date, we have dedicated substantially all of our activities to the research, development and commercialization of linaclotide, as well as to the research and development of our other product candidates.

GI Platform

IBS-C / CIC

IBS-C and CIC are chronic, functional GI disorders that afflict millions of sufferers worldwide. As many as 13 million adults suffer from IBS-C and as many as 35 million adults suffer from CIC in the U.S. alone, according to our analysis of studies including NJ Talley, et al. (published in 1995 in the *American Journal of Epidemiology*), P Pare, et al. (published in 2001 in the A*merican Journal of Gastroenterology*) and J.F. Johanson, et al. (published in 2007 in *Alimentary Pharmacology and Therapeutics*). Symptoms of IBS-C include abdominal pain, discomfort or bloating and constipation symptoms (e.g., incomplete evacuation, infrequent bowel movements, hard/lumpy stools), while CIC is primarily characterized by constipation symptoms.

Linaclotide U.S. In August 2012, the FDA approved LINZESS as a once-daily treatment for adult men and women suffering from IBS-C or CIC. We and Allergan began commercializing LINZESS in the U.S. in December 2012. Linaclotide is the first, and to date, only product approved by the U.S. Food and Drug Administration, or FDA, in a new class of GI medicines called guanylate cyclase type-C, or GC-C, agonists. We and Allergan are also exploring development opportunities to enhance the clinical profile of LINZESS by seeking to expand its utility within IBS-C and CIC, as well as studying linaclotide in additional indications and populations to assess its potential to treat various GI conditions. For example, in November 2015, the FDA approved the inclusion of labeling instructions in the full LINZESS Prescribing Information allowing adult IBS-C and CIC patients with swallowing difficulties the option to administer the contents of LINZESS capsules in applesauce or water.

72 mcg for CIC in Adults. In October 2015, we reported positive top-line data from a Phase III clinical trial in the U.S. with Allergan evaluating a 72 mcg dose of linaclotide in adult patients with CIC. We believe these data support the submission of a supplemental new drug application, or sNDA, to the FDA for approval to market the 72 mcg dose of linaclotide in the U.S. If approved, the

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72 mcg dose would provide a broader range of treatment options to physicians and adult CIC patients in the U.S.

Pediatrics. We and Allergan have established a nonclinical and clinical post-marketing plan with the FDA to understand the safety and efficacy of LINZESS in pediatric patients. The first step in this plan was to undertake certain additional nonclinical studies. We and Allergan have completed these nonclinical studies and have initiated two Phase II clinical pediatric studies in IBS-C patients age seven to 17 and functional constipation patients age six to 17.

Upon FDA-approval of LINZESS in the U.S., we received five years of exclusivity under the Drug Price Competition and Patent Term Restoration Act of 1984, or the Hatch-Waxman Act. In addition, LINZESS is covered by a U.S. composition of matter patent that expires in 2026, including patent term extension, as well as three additional patents covering the commercial formulation of LINZESS and methods of using this formulation to treat patients with IBS-C or CIC, all of which expire in 2031.

Linaclotide Global. In November 2012, the European Commission granted marketing authorization to CONSTELLA for the symptomatic treatment of moderate to severe IBS-C in adults. CONSTELLA is the first, and to date, only drug approved in the European Union, or E.U., for IBS-C. Our former European partner, Almirall, S.A., or Almirall, began commercializing CONSTELLA in Europe in the second quarter of 2013. In October 2015, Almirall transferred its exclusive license to develop and commercialize linaclotide in Europe to Allergan. Currently, CONSTELLA is commercially available in certain European countries, including the United Kingdom, Italy and Spain.

In December 2013 and February 2014, linaclotide was approved in Canada and Mexico, respectively, as a treatment for adult women and men suffering from IBS-C or CIC. Allergan has exclusive rights to commercialize linaclotide in Canada as CONSTELLA and, through a sublicense from Allergan, Almirall had exclusive rights to commercialize linaclotide in Mexico as LINZESS. In May 2014, Allergan began commercializing CONSTELLA in Canada and in June 2014, Almirall began commercializing LINZESS in Mexico. In October 2015, Almirall and Allergan terminated the sublicense arrangement with respect to Mexico, returning the exclusive rights to commercialize CONSTELLA in Mexico to Allergan. CONSTELLA continues to be available to adult IBS-C patients in Mexico.

Astellas Pharma Inc., or Astellas, our partner in Japan, is developing linaclotide for the treatment of patients with IBS-C and chronic constipation in its territory. In November 2015, we and Astellas reported positive top-line data from Astellas' Phase III clinical trial of linaclotide in adult patients with IBS-C for Japan. We believe these data support the submission of a new drug application, or NDA, to the Ministry of Health, Labor and Welfare for approval to market linaclotide in Japan. We and AstraZeneca AB, or AstraZeneca, are co-developing linaclotide in China, Hong Kong and Macau, with AstraZeneca having primary responsibility for the local operational execution. In December 2015, we and AstraZeneca filed for approval with the China Food and Drug Administration to market linaclotide in China. We continue to assess alternatives to bring linaclotide to IBS-C and CIC sufferers in the parts of the world outside of our partnered territories.

Linaclotide is covered by European and Japanese composition of matter patents, all of which expire in 2024, subject to possible patent term extension, as well as Chinese composition of matter patents and commercial formulation patents which expire in 2024 and 2029, respectively.

Linaclotide Colonic Release. Abdominal pain is one of the predominant symptoms associated with IBS, with greater than 75% of IBS-C patients reporting continuous or frequent abdominal pain, according to information published in 2007 by the International Foundation for Functional Gastrointestinal Disorders. In Phase III clinical trials supporting its U.S. approval, linaclotide was demonstrated to reduce the abdominal pain associated with IBS-C.

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We and Allergan are developing linaclotide colonic release, a targeted oral delivery formulation of linaclotide designed to potentially improve abdominal pain relief in adult IBS-C patients. In November 2015, we and Allergan initiated a Phase IIb clinical trial evaluating linaclotide colonic release in adult patients with IBS-C.

Refractory GERD

IW-3718. According to a study published in 2010 by H. El-Sarag in *Alimentary Pharmacology & Therapeutics* and 2015 U.S. census data, there are an estimated 10 million Americans who suffer regularly from symptoms of gastroesophageal reflux disease, or GERD, such as heartburn and regurgitation, despite receiving the current standard of care of treatment with a proton pump inhibitor, or PPI, to suppress stomach acid. Research suggests some refractory GERD patients may experience reflux of bile from the intestine into the stomach and esophagus.

We are investigating IW-3718, a gastric retentive formulation of a bile acid sequestrant designed to bind over an extended period of time to bile that refluxes into the stomach and upper small intestine, potentially providing symptomatic relief in patients with refractory GERD. In February 2015, we reported top-line data from an exploratory Phase IIa clinical study of IW-3718 in patients with refractory GERD. Data from this study demonstrated encouraging improvements in relief of heartburn and certain other upper GI symptoms often associated with refractory GERD.

Other GI Disorders

IW-9179. We are investigating IW-9179, a GC-C agonist designed to target upper GI conditions, for the treatment of gastroparesis and functional dyspepsia.

Gastroparesis is an upper GI disorder in which the muscles and/or nerves of the stomach do not function properly, which disrupts the functional activities of the stomach. Diabetic gastroparesis, which is the focus of our Phase IIa study discussed below, is a condition in which symptoms of gastroparesis occur in patients with type 1 or type 2 diabetes, and has additional harmful effects on glycemic control, as well as secondary effects on organs, which may lead to increased mortality. Information published in 2009 by H.P. Parkman, et al. in *Neuro & Mot* provides that gastroparesis symptoms are reported by approximately five to 12 percent of diabetic patients. In December 2014, we initiated a randomized, placebo-controlled, multi-site Phase IIa clinical study evaluating whether IW-9179 can provide symptomatic relief to adult patients with diabetic gastroparesis.

Functional dyspepsia, or FD, is an upper GI disorder characterized by key symptoms of epigastric pain, epigastric bloating, postprandial fullness, epigastric burning, nausea, belching and early satiety. Based upon a study published in 2005 by G.R. Locke in *Neuro & Mot*, it is estimated that approximately 35 million people suffer from FD in the U.S. In October 2014, we presented data from a Phase IIa clinical study evaluating IW-9179 for the treatment of functional dyspepsia. Patients treated with IW-9179 reported a numerically greater improvement from baseline, compared with placebo-treated patients, on six out of seven FD symptoms evaluated. The most common adverse event in IW-9179-treated patients was diarrhea. Enrollment in this study was limited by stringent enrollment criteria that sought to identify patients suffering only from GI symptoms of FD. These data inform our continued work with GI experts and regulatory authorities to define the path to bring forward new therapies in FD.

Linaclotide Colonic Release. In addition to IBS-C, we are also exploring linaclotide colonic release for use in additional GI disorders where lower abdominal pain is a predominant symptom, including IBS-M, ulcerative colitis and diverticulitis, among others. As part of the linaclotide colonic release Phase IIb clinical trial in IBS-C patients, we and Allergan are also evaluating a second colonic release formulation that is expected to inform a path forward in these additional GI disorders.

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Linaclotide. We and Allergan are evaluating linaclotide in additional indications to assess its potential to treat various GI conditions.

We and Allergan are exploring the potential of linaclotide to provide relief of the GI dysfunction associated with opioid induced constipation, or OIC. In November 2015, we reported positive top-line data from a Phase II clinical study evaluating linaclotide in adult patients with OIC in which linaclotide-treated patients showed a statistically significant improvement in bowel movement frequency compared to placebo-treated patients. In addition, the National Cancer Institute, or NCI, is exploring linaclotide in a Phase I biomarker study, in partnership with us and Allergan, designed to assess the colorectal bioactivity of linaclotide in healthy volunteers, and to inform the feasibility and design of a study to evaluate the potential for linaclotide to prevent colorectal cancer. The NCI is funding and managing the clinical study.

Vascular/Fibrotic Platform

We are advancing development programs targeting sGC, and exploring its utility in vascular and fibrotic diseases. The stimulation of sGC is a clinically validated approach with broad therapeutic potential. Found throughout the body, sGC is an enzyme that is activated by the key regulator nitric oxide to increase levels of the second messenger cyclic guanosine monophosphate, or cGMP, which ultimately regulates processes such as blood flow, inflammation and fibrosis. As modulators of these core physiological processes, sGC stimulators may be relevant in the treatment of a broad range of diseases including cardiovascular diseases such as pulmonary arterial hypertension and congestive heart failure, as well as muscular dystrophy, diabetic nephropathy and other disorders. To date, we have identified two sGC development candidates, IW-1973 and IW-1701, which have distinct pharmacologic profiles that we believe may be differentiating and enable opportunities in multiple indications.

IW-1973. In November 2015, we initiated a Phase Ib clinical study of IW-1973. The study includes two stages: an open-label, single dose, crossover stage and a randomized, double-blind, placebo-controlled, multiple-ascending-dose stage. The Phase Ib clinical study is designed to assess the safety, tolerability, pharmacokinetic profile and pharmacodynamics effects of IW-1973 in healthy subjects.

IW-1701. In November 2015, we initiated a randomized, double-blind, placebo-controlled, single-ascending-dose Phase Ia clinical study of IW-1701 to assess the safety, tolerability, pharmacokinetic profile and pharmacodynamics effects of IW-1701 in healthy subjects.

Collaborations and Partnerships

As part of our strategy, we have established development and commercial capabilities that we plan to leverage as we seek to bring multiple medicines to patients. We intend to play an active role in the development and commercialization of our internally developed products in the U.S., and to establish a strong global brand by out-licensing commercialization rights in other territories to high-performing partners. We believe in the long-term value of our drug candidates, so we seek collaborations that provide meaningful economics and incentives for us and any potential partner. Furthermore, we seek partners who share our values, culture, processes and vision for our products, which we believe will enable us to work with those partners successfully for the entire potential patent life of our drugs. In addition to our internally developed products, we also intend to access innovative products through strategic transactions and leverage our existing capabilities to develop and commercialize these products in the U.S.

The following chart shows our revenue for the U.S. and territories outside of the U.S. as a percentage of our total revenue for each of the years ended December 31, 2015, 2014 and 2013. Revenue attributable to our linaclotide partnerships comprised substantially all of our revenue for each of the years indicated; none of our other product candidates generated revenue during these periods. Further, we currently derive substantially all of our revenue from our LINZESS collaboration with

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Allergan for the U.S. and believe that the revenues from this collaboration will continue to constitute a significant portion of our total revenue for the foreseeable future. In addition, our collaborative arrangements revenue outside of the U.S. has fluctuated for the years ended December 31, 2015, 2014 and 2013, and may continue to fluctuate as a result of the timing and amount of license fees and clinical and commercial milestones received and recognized under our current and future strategic partnerships outside of the U.S., as well as the timing and amount of royalties from the sales of linaclotide in the European, Canadian or Mexican markets or any other markets where linaclotide receives approval.

	2015	2014	2013
U.S.	92.3%	62.3%	12.9%
Rest of world	7.7%	37.7%	87.1%
	100.0%	100.0%	100.0%

We have pursued a partnering strategy for commercializing linaclotide that has enabled us to retain significant oversight over linaclotide's development and commercialization worldwide, share the costs with collaborators whose capabilities complement ours, and retain a significant portion of linaclotide's future long-term value. As of December 31, 2015, licensing fees, milestones, royalties and related equity investments from our linaclotide partners totaled approximately $378.1 million. In addition, we and Allergan jointly fund the development and commercialization of LINZESS in the U.S., sharing equally in any net profits or losses, and we and AstraZeneca jointly fund the development and commercialization of linaclotide in China, Hong Kong and Macau, with AstraZeneca receiving 55% of the net profits or incurring 55% of the net losses until a certain specified commercial milestone is achieved, at which time profits or losses will be shared equally thereafter. Such reimbursements for our development and commercialization costs received from Allergan in the U.S. or AstraZeneca are excluded from the amount above. We continue to assess alternatives to bring linaclotide to IBS-C and CIC sufferers in the parts of the world outside of our partnered territories.

Allergan plc. In September 2007, we entered into a collaboration agreement with Allergan to develop and commercialize linaclotide for the treatment of IBS-C, CIC and other GI conditions in North America. Under the terms of the collaboration agreement, we and Allergan are jointly and equally funding the development and commercialization of LINZESS in the U.S., with equal share of any profits or losses. Additionally, we granted Allergan exclusive rights to develop and commercialize linaclotide in Canada and Mexico in which we receive royalties in the mid-teens percent on net sales in those countries. Allergan is solely responsible for the further development, regulatory approval and commercialization of linaclotide in those countries and funding any costs. Total licensing, milestone payments and related equity investments to us under the Allergan collaboration agreement for North America could total up to $330.0 million, including the $205.0 million that Allergan has already paid to us in license fees and development-related milestones and the $25.0 million of our capital stock that Allergan has already purchased.

In April 2009, we entered into a license agreement with Almirall to develop and commercialize linaclotide in Europe (including the Commonwealth of Independent States and Turkey) for the treatment of IBS-C, CIC and other GI conditions. Under the terms of this agreement, we were eligible to receive licensing, milestone payments and related equity investments that could have totaled up to $118.0 million, including the $61.0 million in milestones, net of foreign withholding taxes, that Almirall already paid to us, and the $15.0 million of our capital stock that Almirall already purchased. We were also eligible to receive royalties based on sales volume in the Almirall territory, beginning in the low-twenties percent and escalating to the mid-forties percent through April 2017, and thereafter beginning in the mid-twenties percent and escalating to the mid-forties percent at lower sales thresholds. These royalty payments were reduced by the transfer price paid for the active pharmaceutical ingredient, or API, included in the product actually sold in the Almirall territory and other contractual deductions. In October 2015, Almirall transferred its exclusive license to develop and commercialize linaclotide in Europe to Allergan, and we separately entered into an amendment to the license agreement with Allergan relating to the development and commercialization of linaclotide in Europe. Pursuant to the terms of the amendment, (i) the remaining sales-based milestones payable to us under the license agreement were modified such that, when aggregated with the remaining commercial launch milestones, they could total up to $42.5 million, (ii) the royalties payable to us during the term of the license agreement were modified such that the royalties based on sales volume in Europe begin in the mid-single digit percent and escalate to the upper-teens percent by calendar year 2019, and (iii) Allergan assumed responsibility for the manufacturing of linaclotide API for Europe from us, as well as the associated costs. Furthermore, as we are no longer responsible for the manufacturing of linaclotide API for Europe, the royalties under the license agreement will no longer be reduced by the transfer price paid for the API included in the product actually sold by Allergan in Europe in any given period.

In August 2015, we and Allergan entered into an agreement for the co-promotion of VIBERZI (eluxadoline) in the U.S., Allergan's treatment for adults suffering from IBS with diarrhea, or IBS-D. Under the terms of the agreement, our clinical sales specialists are detailing VIBERZI to the approximately 25,000 health care practitioners to whom they detail LINZESS. Allergan is responsible for all costs and activities relating to the commercialization of VIBERZI outside of the co-promotion. Our promotional efforts are compensated based on the volume of calls delivered by our sales force, with the terms of the agreement reducing or eliminating certain of the unfavorable adjustments to our share of net profits stipulated by the linaclotide collaboration agreement with Allergan for North America, provided that we deliver a minimum number of VIBERZI calls on physicians. We have the potential to achieve milestone payments of up to $10.0 million based on the net sales of VIBERZI in each of 2017 and 2018, and are also compensated via reimbursements for medical education initiatives. Our promotional efforts under the agreement began when VIBERZI became commercially available in December 2015, and will continue until December 31, 2017, unless earlier terminated by either party pursuant to the provisions of the agreement.

In November 2015, Allergan and Pfizer Inc. entered into a definitive agreement providing for the combination of the two companies. Our collaboration for the development and commercialization of linaclotide, as well as our agreement to co-promote VIBERZI, remains in effect.

Astellas Pharma Inc. In November 2009, we entered into a license agreement with Astellas to develop and commercialize linaclotide for the treatment of IBS-C, CIC and other GI conditions in Japan, South Korea, Taiwan, Thailand, the Philippines and Indonesia. As a result of an amendment to the license agreement executed in March 2013, we regained rights to linaclotide in South Korea, Taiwan, Thailand, the Philippines and Indonesia. If linaclotide is successfully developed and commercialized in the Astellas territory, licensing and milestone payments to us could total up to $75.0 million, including the $30.0 million up-front licensing fee and the $15.0 million development milestone that have already been paid to us. If Astellas receives approval to market and sell linaclotide, Astellas will pay us gross royalties which escalate based on sales volume in the Astellas territory, beginning in the low-twenties percent, less the transfer price paid for the API included in the product actually sold in the Astellas territory and other contractual deductions.

AstraZeneca AB. In October 2012, we entered into a collaboration with AstraZeneca to co-develop and co-commercialize linaclotide in China, Hong Kong and Macau. Under the terms of the agreement, we and AstraZeneca are jointly funding the development and commercialization of linaclotide in the AstraZeneca territory, with AstraZeneca receiving 55% of the net profits or incurring 55% of the net losses until a certain specified commercial milestone is achieved, at which time profits or losses will be shared equally thereafter. If linaclotide is successfully developed and commercialized in China, total licensing and milestone payments to us under the collaboration agreement could total up

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to $150.0 million, including the $25.0 million that AstraZeneca has already paid to us. As part of the collaboration, Ironwood's sales force promoted AstraZeneca's NEXIUM® (esomeprazole magnesium), one of AstraZeneca's products, in the U.S. through May 2014.

Exact Sciences Corp. In March 2015, we and Exact Sciences Corp, or Exact Sciences, entered into an agreement to co-promote Cologuard®, the first and only FDA-approved noninvasive stool DNA screening test for colorectal cancer. Under the terms of the agreement, our sales team is promoting and educating health care practitioners regarding Cologuard. We are also collaborating on medical education initiatives to support more in-depth understanding of Cologuard and the importance of colorectal cancer screening. Exact Sciences maintains responsibility for all other aspects of the commercialization of Cologuard outside of the co-promotion. We are compensated via reimbursements for sales detailing, promotional support services and medical education initiatives. During the initial one-year term of the agreement, we could receive up to a maximum reimbursement of approximately $4.8 million. We also earn royalties on the net sales of Cologuard generated from the healthcare practitioners on whom we call less the sales promotion reimbursement to us, such royalties being payable during the term and for one year following the termination of our co-promotion efforts.

Owner-related Business Principles

We encourage all current and potential stockholders to read the owner-related business principles below that guide our overall strategy and decision making.

1. Ironwood's stockholders own the business; all of our employees work for them.

Each of our employees also has equity in the business, aligning their interests with those of their fellow stockholders. As employees and co-owners of Ironwood, our management and employee team seek to effectively allocate scarce stockholder capital to maximize the average annual growth of per share value.

Through our policies and communication, we seek to attract like-minded owner-oriented stockholders. We strive to effectively communicate our views of the business opportunities and risks over time so that entering and exiting stockholders are doing so at a price that approximately reflects our intrinsic value.

2. We believe we can best maximize long-term stockholder value by building a great pharmaceutical franchise.

We believe that Ironwood has the potential to deliver outstanding long-term returns to stockholders who are sober to the risks inherent in the pharmaceutical product lifecycle and to the potential dramatic highs and lows along the way, and who focus on superior long-term, per share cash flows.

Since the pharmaceutical product lifecycle is lengthy and unpredictable, we believe it is critical to have a long-term strategic horizon. We work hard to embed our long-term focus into our policies and practices, which may give us a competitive advantage in attracting like-minded stockholders and the highest caliber employees. Our current and future employees may perceive both financial and qualitative advantages in having their inventions or hard work result in marketed drugs that they and their fellow stockholders continue to own. Some of our key policies and practices that are aligned with this imperative include:

a. Our dual class equity voting structure (which provides for super-voting rights of our pre-IPO stockholders only in the event of a change of control vote) is designed to concentrate change of control decisions in the hands of long-term focused owners who have a history of experience with us.

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b. We grant each of our employees stock-based awards, and long-term equity is a significant component of their total compensation. We believe our emphasis on equity plays an important role in attracting and motivating the owner-oriented employees we seek and aligning their interests with those of their fellow stockholders.

c. We have adopted a change of control severance plan for all of our employees that is intended to encourage them to bring forward their best ideas by providing them with the comfort that if a change of control occurs and their employment is terminated, they will still have an opportunity to share in the economic value that they have helped create for stockholders.

d. All of the members of our board of directors are investors in the company. Furthermore, each director is required to hold all shares of stock acquired as payment for his or her service as a director throughout his or her term on the board.

e. Our partnerships with Allergan, Astellas and AstraZeneca all include standstill agreements, which serve to protect us from an unwelcome acquisition attempt by one of our partners. In addition, we have change of control provisions in our partnership agreements in order to protect the economic value of linaclotide should the acquirer of one of our partners be unable or unwilling to devote the time and resources required to maximize linaclotide's benefit to patients in their respective territory.

3. We are and will remain careful stewards of our stockholders' capital.

We work intensely to allocate capital carefully and prudently, continually reinforcing a lean, cost-conscious culture.

While we are mindful of the declining productivity and inherent challenges of pharmaceutical research and development, we intend to invest in discovery and development research for many years to come. Our singular passion is to create, develop and commercialize novel drug candidates, seeking to integrate the most successful drugmaking and marketing practices of the past and the best of today's cutting-edge technologies and basic research, development and commercialization advances.

While we hope to improve the productivity and efficiency of our drug creation efforts over time, our discovery process revolves around small, highly interactive, cross-functional teams. We believe that this is one area where our relatively small size is a competitive advantage, so for the foreseeable future, we do not expect our drug discovery team to grow beyond 100-150 scientists. We will continue to prioritize constrained resources and maintain organizational discipline. Once internally or externally derived candidates advance into development, compounds follow careful stage-gated plans, with further advancement depending on clear data points. Since most pharmaceutical research and development projects fail, it is critical that our teams are rigorous in making early go/no go decisions, following the data, terminating unsuccessful programs, and allocating scarce dollars and talent to the most promising efforts, thus enhancing the likelihood of late phase development success.

Our global operations and commercial teams take a similar approach to capital allocation and decision-making. By working with our partners to establish redundancy at each critical node of the linaclotide global supply chain, we are mitigating against a fundamental risk inherent with pharmaceuticals unanticipated shortages of commercial product. Likewise, we have established a commercial organization dedicated to bringing innovative, highly-valued healthcare solutions to all of our customers. Our commercial organization works closely and methodically with our global commercialization partners, striving to maximize linaclotide's commercial potential through focused efforts aimed at educating patients, payers and healthcare providers.

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4. Our financial goal is to maximize long-term per share cash flows.

Our goal is to maximize long-term cash flows per share, and we will prioritize this even if it leads to uneven short-term financial results. If and when we become profitable, we expect and accept uneven earnings growth. Our underlying product development model is risky and unpredictable, and we have no intention to advance marginal development candidates or consummate suboptimal in-license transactions in an attempt to fill anticipated gaps in revenue growth. Successful drugs can be enormously beneficial to patients and highly profitable and rewarding to stockholders, and we believe strongly in our ability to occasionally (but not in regular or predictable fashion) create and commercialize great medicines that make a meaningful difference in patients' lives.

If and when we reach profitability, we do not intend to issue quarterly or annual earnings guidance; however we plan to continue to be transparent about the key elements of our performance, including near-term operating plans and longer-term strategic goals.

Our Strategy

Our mission is to create medicines that make a difference for patients, build value for our fellow stockholders, and empower our passionate team. Our core strategy to achieve this mission is to leverage our development and commercial capabilities in addressing GI disorders as well as our pharmacologic expertise in GC pathways to bring multiple medicines to patients. Key elements of our strategy include:

- attracting and incentivizing a team with a singular passion for creating, developing and commercializing medicines that can make a significant difference in patients' lives;
- successfully and profitably commercializing LINZESS in collaboration with Allergan in the U.S.;
- exploring development opportunities to enhance the clinical profile of LINZESS by seeking to expand its utility in its indicated populations, as well as studying linaclotide in additional indications, populations and formulations to assess its potential to treat various GI conditions;
- investing in our pipeline of novel GI product candidates and advancing our sGC stimulators targeting vascular/fibrotic diseases;
- solidifying and expanding our position as the leader in the field of GC-C agonists and cGMP pharmacology;
- leveraging our U.S.-focused commercial capabilities in marketing, reimbursement, patient engagement and sales;
- evaluating candidates outside of the company for in-licensing or acquisition opportunities;
- maximizing the commercial potential of our drugs and playing an active role in their commercialization or find partners who share our vision, values, culture and processes;
- supporting global partners to commercialize linaclotide outside of the U.S.;
- harvesting the maximum value of linaclotide outside of our currently partnered territories; and,
- executing our strategy with our stockholders' long-term interests in mind by seeking to maximize long-term per share cash flows.

Competition

Linaclotide, our only marketed product to date, competes globally with certain prescription therapies and over-the-counter, or OTC, products for the treatment of IBS-C and CIC, or their associated symptoms.

Polyethylene glycol, or PEG (such as MiraLAX®), and lactulose account for the majority of prescription laxative treatments. Both agents demonstrate an improvement in stool frequency and consistency but do not improve bloating, abdominal discomfort or the recurrence of symptoms. Clinical trials and product labels document several adverse effects with PEG and lactulose, including exacerbation of bloating, cramping and, according to a study published in 2005 by L.E. Brandt, et al. in the *American Journal of Gastroenterology*, up to a 40% incidence of diarrhea. Overall, up to 75% of patients taking prescription laxatives report not being completely satisfied with the predictability of when they will experience a bowel movement on treatment, and 50% were not completely satisfied with relief of the multiple symptoms associated with constipation, according to the J.F. Johanson study published in 2007 in *Alimentary Pharmacology & Therapeutics*.

OTC laxatives make up the majority of the IBS-C and CIC treatment market, according to a GI patient landscape survey performed in 2010 by Lieberman *et al*. Given the low barriers to access, many IBS-C and CIC sufferers try OTC fiber and laxatives, but according to this same patient landscape survey, less than half of them are very satisfied with the ability of these OTC products to manage their symptoms. Two of the largest selling OTC laxatives in the U.S., based on 2013 U.S. sales volume data from Euromonitor International, are MiraLAX and Dulcolax®.

Until the launch of LINZESS, the only available prescription therapy for IBS-C and CIC in the U.S. was Amitiza® (lubiprostone), which was approved for the treatment of CIC in 2006, for the treatment of IBS-C in 2008, and for the treatment of opioid-induced constipation in 2013. Amitiza is also approved for the treatment of CIC in the United Kingdom and Switzerland, and for the treatment of chronic constipation in Japan. There are additional compounds in late-stage development by other companies for the treatment of patients with IBS-C and CIC.

Manufacturing and Supply

We currently manage our global supply and distribution of linaclotide through a combination of contract manufacturers and collaboration partners. It is our objective to produce safe and effective medicine on a worldwide basis, with redundancy built into critical steps of the supply chain. We believe that we have sufficient in-house expertise to manage our manufacturing and supply chain network to meet worldwide demand.

Linaclotide production consists of three phases manufacture of the API (sometimes referred to as drug substance), manufacture of drug product and manufacture of finished goods. We have entered into agreements with multiple third party manufacturers for the production of linaclotide API. We believe our commercial suppliers have the capabilities to produce linaclotide API in accordance with current good manufacturing practices, or GMP, on a sufficient scale to meet our development and commercial needs. Our commercial suppliers are subject to routine inspections by regulatory agencies worldwide and also undergo periodic audit and certification by our quality department. In connection with the transfer of Almirall's exclusive license to develop and commercialize linaclotide in Europe to Allergan, Allergan assumed responsibility for the manufacturing of linaclotide API for Europe.

Each of Allergan and Astellas is responsible for drug product and finished goods manufacturing (including bottling and packaging) for its respective territories, and distributing the finished goods to wholesalers. We have an agreement with an independent third party to serve as an additional source of drug product manufacturing of linaclotide for our partnered territories and we have worked with our partners to achieve sufficient redundancy in this component of the linaclotide supply chain. Under our collaboration with AstraZeneca, we are accountable for drug product and finished goods manufacturing for China, Hong Kong and Macau.

Prior to linaclotide, there was no precedent for long-term room temperature shelf storage formulation for an orally dosed peptide to be produced in millions of capsules per year. Our efforts to date have led to a formulation that is both cost effective and able to meet the stability requirements for commercial pharmaceutical products. Our work in this area has created an opportunity to seek additional intellectual property protection around the linaclotide program. In conjunction with Allergan and Astellas, we have filed patent applications in the U.S. and foreign jurisdictions and have been issued three U.S. patents to protect the current commercial formulation of linaclotide as well as related formulations. The three issued U.S. patents expire in 2031. If issued, the pending patent applications would expire in 2029 or later in the U.S. and foreign jurisdictions and would be eligible for potential patent term adjustments or patent term extensions in countries where such extensions may be available.

Sales and Marketing

For the foreseeable future, we intend to develop and commercialize our drugs in the U.S. alone or with partners, and expect to rely on partners to commercialize our drugs in territories outside the U.S. In executing our strategy, our goal is to retain significant worldwide oversight over the development process and commercialization of our products, by playing an active role in their commercialization or finding partners who share our vision, values, culture and processes.

We have built our commercial capabilities, including marketing, reimbursement, patient engagement and sales, around linaclotide, with the intent to leverage these capabilities for future internally and externally developed products. To date, we have established a high-quality commercial organization dedicated to bringing innovative, highly-valued healthcare solutions to our customers, including patients, payers, and healthcare providers. As part of our strategy, we and Allergan have been investing in a direct-to-consumer patient awareness campaign for LINZESS designed to help adults in the U.S. suffering from IBS-C or CIC recognize the symptoms of their disorder, describe their symptoms to their doctor, and ask their doctor whether LINZESS can help proactively manage their disease.

We are coordinating efforts with all of our partners to ensure that we launch and maintain an integrated, global linaclotide brand. By leveraging the knowledge base and expertise of our experienced commercial team and the insights of each of our linaclotide commercialization partners, we continually improve our collective marketing strategies.

Patents and Proprietary Rights

We actively seek to protect the proprietary technology that we consider important to our business, including pursuing patents that cover our products and compositions, their methods of use and the processes for their manufacture, as well as any other relevant inventions and improvements that are commercially important to the development of our business. We also rely on trade secrets that may be important to the development of our business.

Our success will depend significantly on our ability to obtain and maintain patent and other proprietary protection for the technology, inventions and improvements we consider important to our business; defend our patents; preserve the confidentiality of our trade secrets; and operate without infringing the patents and proprietary rights of third parties.

Linaclotide Patent Portfolio

Our linaclotide patent portfolio is currently composed of nine U.S. patents listed in the FDA publication, "Approved Drug Products with Therapeutic Equivalence Evaluations" (also known as the "Orange Book"), three granted European patents (each of which has been validated in 31 European countries), five granted Japanese patents, four granted Chinese patents, 33 issued patents in other foreign jurisdictions, and numerous pending provisional, U.S. non-provisional, foreign and PCT patent applications. We own or jointly own all of the issued patents and pending applications.

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The issued U.S. patents, which will expire between 2024 and 2031, contain claims directed to the linaclotide molecule, pharmaceutical compositions thereof, methods of using linaclotide to treat GI disorders, processes for making the molecule, and room temperature stable formulations of linaclotide and methods of use thereof. The granted European patents, which will expire in 2024, subject to potential patent term extension, contain claims directed to the linaclotide molecule, pharmaceutical compositions thereof and uses of linaclotide to prepare medicaments for treating GI disorders. The granted Chinese patents, which will expire between 2024 and 2031, and the granted Japanese patents, which will expire between 2024 and 2029 subject to potential patent term extension, contain claims directed to the linaclotide molecule, pharmaceutical compositions of linaclotide for use in treating GI disorders, and room temperature stable formulations of linaclotide.

We have pending patent applications worldwide covering the current commercial formulation of linaclotide that, if issued, will expire in 2029 or later.

We have pending applications directed to linaclotide products under development that will extend patent protection, if issued, until 2035 or later. We also have pending provisional, U.S. non-provisional, foreign and PCT applications directed to linaclotide and related molecules, pharmaceutical formulations thereof, methods of using linaclotide to treat various diseases and disorders and processes for making the molecule. These additional patent applications, if issued, will expire between 2024 and 2036.

The patent term of a patent that covers an FDA-approved drug is also eligible for patent term extension, which permits patent term restoration as compensation for some of the patent term lost during the FDA regulatory review process. The Hatch-Waxman Act permits a patent term extension of a single patent applicable to an approved drug for up to five years beyond the expiration of the patent but the extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval by the FDA. The United States Patent and Trademark Office has issued a Certificate of Patent Term Extension for U.S. Patent 7,304,036, which covers linaclotide and methods of use thereof. As a result, the patent term of this patent was extended to August 30, 2026, 14 years from the date of linaclotide's approval by the FDA. Similar provisions are available in Europe and certain other foreign jurisdictions to extend the term of a patent that covers an approved drug.

Pipeline Patent Portfolio

Our pipeline patent portfolio relating to our development programs outside of linaclotide is currently composed of eight issued U.S. patents; 11 issued patents in foreign jurisdictions; and numerous pending provisional, U.S. non-provisional, foreign and PCT patent applications. We own all of the issued patents and pending applications. The issued U.S. patents expire between 2028 and 2032. The foreign issued patents expire between 2027 and 2036. The pending patent applications, if issued, will expire between 2027 and 2035.

Additional Intellectual Property

In addition to the patents and patent applications related to linaclotide and our GI and sGC pipeline, we currently have five issued U.S. patents; six patents granted in foreign jurisdictions; and a number of pending provisional, U.S. non-provisional, foreign and PCT applications directed to other GC-C agonist molecules and uses thereof. We also have other issued patents and pending patent applications relating to our other research and development programs, and we are the licensee of a number of issued patents and pending patent applications.

The term of individual patents depends upon the legal term of the patents in the countries in which they are obtained. In most countries in which we file, the patent term is 20 years from the date of filing the non-provisional application. In the U.S., a patent's term may be lengthened by patent term adjustment, which compensates a patentee for administrative delays by the U.S. Patent and Trademark

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Office in granting a patent, or may be shortened if a patent is terminally disclaimed over an earlier-filed patent. We also expect to apply for patent term extensions for some of our patents once issued, depending upon the length of clinical trials and other factors involved in the submission of a NDA.

Government Regulation

In the U.S., pharmaceutical products are subject to extensive regulation by the FDA. The Federal Food, Drug, and Cosmetic Act and other federal and state statutes and regulations, govern, among other things, the research, development, testing, manufacture, storage, recordkeeping, approval, labeling, promotion and marketing, distribution, FDA post marketing requirements and assessments, post-approval monitoring and reporting, sampling, and import and export of pharmaceutical products. The FDA has very broad enforcement authority and failure to abide by applicable regulatory requirements can result in administrative or judicial sanctions being imposed on us, including warning letters, refusals of government contracts, clinical holds, civil penalties, injunctions, restitution, disgorgement of profits, recall or seizure of products, total or partial suspension of production or distribution, withdrawal of approval, refusal to approve pending applications, and civil or criminal prosecution.

FDA Approval Process

We believe that our product candidates will be regulated by the FDA as drugs. No company may market a new drug until it has submitted an NDA to the FDA, and the FDA has approved it. The steps required before the FDA may approve an NDA generally include:

- conducting nonclinical laboratory tests and animal tests in compliance with FDA's good laboratory practice requirements;
- development, manufacture and testing of active pharmaceutical product and dosage forms suitable for human use in compliance with current GMP;
- conducting adequate and well-controlled human clinical trials that establish the safety and efficacy of the product for its specific intended use(s);
  - In order to evaluate a drug in humans in the U.S., an investigational new drug application, or IND, must be submitted and come into effect before human clinical trials may begin.
- the submission to the FDA of an NDA;
- satisfactory completion of one or more FDA inspections of the manufacturing facility or facilities at which the product, or components thereof, are produced to assess compliance with current GMP requirements and to assure that the facilities, methods and controls are adequate to preserve the product's identity, strength, quality and purity; and
  - Inspections of other sources of data in the NDA, such as inspection of clinical trial sites to assess compliance with good clinical practice, or GCP, requirements are also generally required.
- FDA review and approval of the NDA.

Nonclinical tests include laboratory evaluation of the product candidate, as well as animal studies to assess the potential safety and efficacy of the product candidate. The conduct of the nonclinical tests must comply with federal regulations and requirements including good laboratory practices. We must submit the results of the nonclinical tests, together with manufacturing information, analytical data and a proposed clinical trial protocol to the FDA as part of an IND, which must become effective before we may commence human clinical trials in the U.S. The IND will automatically become effective 30 days after its receipt by the FDA, unless the FDA raises concerns or questions before that time

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about the conduct of the proposed trial. In such a case, we must work with the FDA to resolve any outstanding concerns before the clinical trial can proceed. We cannot be sure that submission of an IND will result in the FDA allowing clinical trials to begin, or that, once begun, issues will not arise that will cause us or the FDA to modify, suspend or terminate such trials. The study protocol and informed consent information for patients in clinical trials must also be submitted to an institutional review board for approval. An institutional review board may also require the clinical trial at the site to be halted, either temporarily or permanently, for failure to comply with the institutional review board's requirements or if the trial has been associated with unexpected serious harm to subjects. An institutional review board may also impose other conditions on the trial.

Clinical trials involve the administration of the product candidate to humans under the supervision of qualified investigators, generally physicians not employed by or under the trial sponsor's control. Clinical trials are typically conducted in three sequential phases, though the phases may overlap or be combined. In Phase I, the initial introduction of the drug into healthy human subjects, the drug is usually tested for safety (adverse effects), dosage tolerance and pharmacologic action, as well as to understand how the drug is taken up by and distributed within the body. Phase II usually involves studies in a limited patient population (individuals with the disease under study) to:

- evaluate preliminarily the efficacy of the drug for specific, targeted conditions;
- determine dosage tolerance and appropriate dosage as well as other important information about how to design larger Phase III trials; and
- identify possible adverse effects and safety risks.

Phase III trials generally further evaluate clinical efficacy and test for safety within an expanded patient population. The conduct of clinical trials is subject to extensive regulation, including compliance with GCP regulations and guidance, and regulations designed to protect the rights and safety of subjects involved in investigations.

The FDA may order the temporary or permanent discontinuation of a clinical trial at any time or impose other sanctions if it believes that the clinical trial is not being conducted in accordance with FDA requirements or presents an unacceptable risk to the clinical trial patients. We may also suspend clinical trials at any time on various grounds.

The results of the nonclinical and clinical studies, together with other detailed information, including the manufacture and composition of the product candidate, are submitted to the FDA in the form of an NDA requesting approval to market the drug. FDA approval of the NDA is required before marketing of the product may begin in the U.S. If the NDA contains all pertinent information and data, the FDA will "file" the application and begin review. The review process, however, may be extended by FDA requests for additional information, nonclinical or clinical studies, clarification regarding information already provided in the submission, or submission of a risk evaluation and mitigation strategy. The FDA may refer an application to an advisory committee for review, evaluation and recommendation as to whether the application should be approved. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions. Before approving an NDA, the FDA will typically inspect the facilities at which the product candidate is manufactured and will not approve the product candidate unless current GMP compliance is satisfactory. FDA also typically inspects facilities responsible for performing animal testing, as well as clinical investigators who participate in clinical trials. The FDA may refuse to approve an NDA if applicable regulatory criteria are not satisfied, or may require additional testing or information. The FDA may also limit the indications for use and/or require post-marketing testing and surveillance to monitor the safety or efficacy of a product. Once granted, product approvals may be withdrawn if compliance with regulatory standards is not maintained or problems are identified following initial marketing.

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The testing and approval process requires substantial time, effort and financial resources, and our product candidates may not be approved on a timely basis, if at all. The time and expense required to perform the clinical testing necessary to obtain FDA approval for regulated products can frequently exceed the time and expense of the research and development initially required to create the product. The results of nonclinical studies and initial clinical trials of our product candidates are not necessarily predictive of the results from large-scale clinical trials, and clinical trials may be subject to additional costs, delays or modifications due to a number of factors, including difficulty in obtaining enough patients, investigators or product candidate supply. Failure by us or our collaborators, licensors or licensees, including Allergan, Astellas and AstraZeneca, to obtain, or any delay in obtaining, regulatory approvals or in complying with requirements could adversely affect commercialization and our ability to receive product or royalty revenues.

Hatch-Waxman Act

The Hatch-Waxman Act established abbreviated approval procedures for generic drugs. Approval to market and distribute these drugs is obtained by submitting an abbreviated new drug application, or ANDA, with the FDA. The application for a generic drug is "abbreviated" because it need not include nonclinical or clinical data to demonstrate safety and effectiveness and may instead rely on the FDA's previous finding that the brand drug, or reference drug, is safe and effective. In order to obtain approval of an ANDA, an applicant must, among other things, establish that its product is bioequivalent to an existing approved drug and that it has the same active ingredient(s), strength, dosage form, and the same route of administration. A generic drug is considered bioequivalent to its reference drug if testing demonstrates that the rate and extent of absorption of the generic drug is not significantly different from the rate and extent of absorption of the reference drug when administered under similar experimental conditions.

The Hatch-Waxman Act also provides incentives by awarding, in certain circumstances, certain legal protections from generic competition. This protection comes in the form of a non-patent exclusivity period, during which the FDA may not accept, or approve, an application for a generic drug, whether the application for such drug is submitted through an ANDA or a through another form of application, known as a 505(b)(2) application.

The Hatch-Waxman Act grants five years of exclusivity when a company develops and gains NDA approval of a new chemical entity that has not been previously approved by the FDA. This exclusivity provides that the FDA may not accept an ANDA or 505(b)(2) application for five years after the date of approval of previously approved drug, or four years in the case of an ANDA or 505(b)(2) application that challenges a patent claiming the reference drug (see discussion below regarding Paragraph IV Certifications). The Hatch-Waxman Act also provides three years of exclusivity for approved applications for drugs that are not new chemical entities, if the application contains the results of new clinical investigations (other than bioavailability studies) that were essential to approval of the application. Examples of such applications include applications for new indications, dosage forms (including new drug delivery systems), strengths, or conditions of use for an already approved product. This three-year exclusivity period only protects against FDA approval of ANDAs and 505(b)(2) applications for generic drugs that include the innovation that required new clinical investigations that were essential to approval; it does not prohibit the FDA from accepting or approving ANDAs or 505(b)(2) NDAs for generic drugs that do not include such an innovation.

Paragraph IV Certifications. Under the Hatch-Waxman Act, NDA applicants and NDA holders must provide information about certain patents claiming their drugs for listing in the FDA publication, "Approved Drug Products with Therapeutic Equivalence Evaluations," also known as the "Orange Book." When an ANDA or 505(b)(2) application is submitted, it must contain one of several possible certifications regarding each of the patents listed in the Orange Book for the reference drug. A

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certification that a listed patent is invalid or will not be infringed by the sale of the proposed product is called a "Paragraph IV" certification.

Within 20 days of the acceptance by the FDA of an ANDA or 505(b)(2) application containing a Paragraph IV certification, the applicant must notify the NDA holder and patent owner that the application has been submitted, and provide the factual and legal basis for the applicant's opinion that the patent is invalid or not infringed. The NDA holder or patent holder may then initiate a patent infringement suit in response to the Paragraph IV notice. If this is done within 45 days of receiving notice of the Paragraph IV certification, a 30-month stay of the FDA's ability to approve the ANDA or 505(b)(2) application is triggered. The FDA may approve the proposed product before the expiration of the 30-month stay only if a court finds the patent invalid or not infringed, or if the court shortens the period because the parties have failed to cooperate in expediting the litigation.

Patent Term Restoration. Under the Hatch-Waxman Act, a portion of the patent term lost during product development and FDA review of an NDA or 505(b)(2) application is restored if approval of the application is the first permitted commercial marketing of a drug containing the active ingredient. The patent term restoration period is generally one-half the time between the effective date of the IND and the date of submission of the NDA, plus the time between the date of submission of the NDA and the date of FDA approval of the product. The maximum period of patent term extension is five years, and the patent cannot be extended to more than 14 years from the date of FDA approval of the product. Only one patent claiming each approved product is eligible for restoration and the patent holder must apply for restoration within 60 days of approval. The U.S. Patent and Trademark Office, in consultation with the FDA, reviews and approves the application for patent term restoration.

Other Regulatory Requirements

After approval, drug products are subject to extensive continuing regulation by the FDA, which include company obligations to manufacture products in accordance with current GMP, maintain and provide to the FDA updated safety and efficacy information, report adverse experiences with the product, keep certain records and submit periodic reports, obtain FDA approval of certain manufacturing or labeling changes, and comply with FDA promotion and advertising requirements and restrictions. Failure to meet these obligations can result in various adverse consequences, both voluntary and FDA-imposed, including product recalls, withdrawal of approval, restrictions on marketing, and the imposition of civil fines and criminal penalties against the NDA holder. In addition, later discovery of previously unknown safety or efficacy issues may result in restrictions on the product, manufacturer or NDA holder.

We and any manufacturers of our products are required to comply with applicable FDA manufacturing requirements contained in the FDA's current GMP regulations. Current GMP regulations require, among other things, quality control and quality assurance as well as the corresponding maintenance of records and documentation. The manufacturing facilities for our products must meet current GMP requirements to the satisfaction of the FDA pursuant to a pre-approval inspection before we can use them to manufacture our products. We and any third-party manufacturers are also subject to periodic inspections of facilities by the FDA and other authorities, including procedures and operations used in the testing and manufacture of our products to assess our compliance with applicable regulations.

With respect to post-market product advertising and promotion, the FDA imposes a number of complex regulations on entities that advertise and promote pharmaceuticals, which include, among others, standards for direct-to-consumer advertising, prohibitions on promoting drugs for uses or in patient populations that are not described in the drug's approved labeling (known as "off-label use"), and principles governing industry-sponsored scientific and educational activities. Failure to comply with FDA requirements can have negative consequences, including adverse publicity, enforcement letters

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from the FDA, mandated corrective advertising or communications with doctors or patients, and civil or criminal penalties. Although physicians may prescribe legally available drugs for off-label uses, manufacturers may not market or promote such off-label uses.

Changes to some of the conditions established in an approved application, including changes in indications, labeling, or manufacturing processes or facilities, require submission and FDA approval of a new NDA or NDA supplement before the change can be implemented. An NDA supplement for a new indication typically requires clinical data similar in type and quality to the clinical data supporting the original application for the original indication, and the FDA uses similar procedures and actions in reviewing such NDA supplements as it does in reviewing NDAs.

Adverse event reporting and submission of periodic reports is required following FDA approval of an NDA. The FDA also may require post-marketing testing, known as Phase IV testing, risk minimization action plans, and surveillance to monitor the effects of an approved product or to place conditions on an approval that restrict the distribution or use of the product.

Outside the U.S., our and our collaborators' abilities to market a product are contingent upon receiving marketing authorization from the appropriate regulatory authorities. The requirements governing marketing authorization, pricing and reimbursement vary widely from jurisdiction to jurisdiction. At present, foreign marketing authorizations are applied for at a national level, although within the E.U. registration procedures are available to companies wishing to market a product in more than one E.U. member state.

Employees

As of December 31, 2015, we had 474 employees. Approximately 36 were scientists engaged in discovery research, 136 were in our drug development organization, 204 were in our sales and commercial team, and 98 were in general and administrative functions. None of our employees are represented by a labor union, and we consider our employee relations to be good.

Executive Officers of the Registrant

The following table sets forth the name, age and position of each of our executive officers as of February 12, 2016:

Name	Age	Position
Peter M. Hecht, Ph.D.	52	Chief Executive Officer, Director
Tom Graney	51	Chief Financial Officer and Senior Vice President, Finance and Corporate Strategy
Mark G. Currie, Ph.D.	61	Senior Vice President, Chief Scientific Officer and President of R&D
Halley E. Gilbert	46	Senior Vice President, Chief Legal Officer, and Secretary
Thomas A. McCourt	58	Senior Vice President, Marketing and Sales and Chief Commercial Officer

Peter M. Hecht has served as our chief executive officer and a director since our founding in 1998. Under his leadership, Ironwood has grown from nine Ph.D. scientists to a commercial biotechnology company. Prior to founding Ironwood, Dr. Hecht was a research fellow at Whitehead Institute for Biomedical Research. Dr. Hecht earned a B.S. in mathematics and an M.S. in biology from Stanford University, and holds a Ph.D. in molecular biology from the University of California at Berkeley.

Tom Graney has served as our chief financial officer and senior vice president of finance and corporate strategy since joining us in August 2014. Prior to joining our company, Mr. Graney held a number of positions in the areas of mergers and acquisitions, strategic marketing, finance and accounting at Johnson & Johnson, or J&J, and its affiliates since 1994. Most recently Mr. Graney served as worldwide vice president of finance and chief financial officer of Ethicon, a global leader in surgical medical devices, from January 2010 to August 2014. Prior to that, Mr. Graney was vice president of finance for J&J Global Supply Chain from August 2009 to January 2010, chief financial officer of J&J's Janssen Pharmaceuticals from February 2008 to August 2009, and chief financial officer for J&J Global Virology (including Tibotec Pharmaceuticals) from November 2005 to February 2008. A chartered financial analyst charterholder, Mr. Graney holds a Bachelor of Science degree in accounting from the University of Delaware and an M.B.A. in marketing, finance and international business from the Leonard N. Stern School of Business at New York University.

Mark G. Currie serves as our senior vice president, chief scientific officer and president of research and development, and has led our research and development efforts since joining us in 2002. Prior to joining Ironwood, Dr. Currie directed cardiovascular and central nervous system disease research as vice president of discovery research at Sepracor Inc. Previously, Dr. Currie initiated, built and led discovery pharmacology and also served as director of arthritis and inflammation at Monsanto Company. Dr. Currie earned a B.S. in biology from the University of South Alabama and holds a Ph.D. in cell biology from the Bowman-Gray School of Medicine of Wake Forest University.

Halley E. Gilbert serves as our senior vice president, chief legal officer, and secretary and has led our legal and compliance function since joining us in 2008. Prior to joining us, Ms. Gilbert was vice president and deputy general counsel at Cubist Pharmaceuticals, Inc. and corporate counsel at Genzyme Corp., and prior to that, she was an associate specializing in mergers and acquisitions and securities law at Skadden, Arps, Slate, Meagher & Flom LLP. Ms. Gilbert received her J.D. from Northwestern University School of Law and a B.A. from Tufts University.

Thomas A. McCourt has served as our senior vice president of marketing and sales and chief commercial officer since joining Ironwood in 2009. Prior to joining Ironwood, Mr. McCourt led the U.S. brand team for denosumab at Amgen Inc. from April 2008 to August 2009. Prior to that, Mr. McCourt was with Novartis AG from 2001 to 2008, where he directed the launch and growth of Zelnorm for the treatment of patients with IBS-C and CIC and held a number of senior commercial roles, including vice president of strategic marketing and operations. Mr. McCourt was also part of the founding team at Astra Merck Inc., leading the development of the medical affairs and science liaison group and then serving as brand manager for Prilosec and NEXIUM®. Mr. McCourt has a degree in pharmacy from the University of Wisconsin.

Available Information

You may obtain free copies of our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, and amendments to those reports, as soon as reasonably practicable after they are electronically filed or furnished to the SEC, on the Investors section of our website at www.ironwoodpharma.com or by contacting our Investor Relations department at (617) 374-5082. The contents of our website are not incorporated by reference into this report and you should not consider information provided on our website to be part of this report.

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

In addition to the other information in this Annual Report on Form 10-K, any of the factors described below could significantly and negatively affect our business, financial condition, results of operations or prospects. The trading price of our Class A common stock may decline due to these risks.

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Risks Related to Our Business and Industry

We are highly dependent on the commercial success of LINZESS in the U.S. for the foreseeable future; we cannot guarantee when, or if, we will attain profitability or positive cash flows.

We and our partner, Allergan plc (together with its affiliates), or Allergan (formerly Actavis plc), began selling LINZESS in the U.S. during December 2012. The commercial success of LINZESS depends on a number of factors, including:

- the effectiveness of LINZESS as a treatment for adult patients with IBS-C or CIC;
- the size of the treatable patient population;
- the effectiveness of the sales, managed markets and marketing efforts by us and Allergan;
- the adoption of LINZESS by physicians, which depends on whether physicians view it as a safe and effective treatment for adult patients with IBS-C and CIC;
- our success in educating and activating adult IBS-C and CIC patients to enable them to more effectively communicate their symptoms and treatment history to their physicians;
- our ability to both secure and maintain adequate reimbursement for, and optimize patient access to, LINZESS by providing third party payers with a strong value proposition based on the existing burden of illness associated with IBS-C and CIC and the benefits of LINZESS;
- the effectiveness of our partners' distribution networks;
- the occurrence of any side effects, adverse reactions or misuse, or any unfavorable publicity in these areas, associated with LINZESS; and
- the development or commercialization of competing products or therapies for the treatment of IBS-C or CIC, or their associated symptoms.

Our revenues from the commercialization of LINZESS are subject to these factors, and therefore may be unpredictable from quarter-to-quarter. Ultimately, we may never generate sufficient revenues from LINZESS to reach or maintain profitability for our company or to sustain our anticipated levels of operations.

Linaclotide may cause undesirable side effects or have other properties that could limit its commercial potential.

The most commonly reported adverse reaction in the Phase III placebo-controlled trials for linaclotide in IBS-C and CIC was diarrhea. Severe diarrhea was reported in 2% or less of the linaclotide-treated patients, and its incidence was similar between the IBS-C and CIC populations in these trials. If we or others identify previously unknown side effects, if known side effects are more frequent or severe than in the past, if we or others detect unexpected safety signals for linaclotide or any products perceived to be similar to linaclotide, or if any of the foregoing are perceived to have occurred, then in any of these circumstances:

- sales of linaclotide may be impaired;

regulatory approvals for linaclotide may be denied, restricted or withdrawn;

we may decide to, or be required to, send product warning letters or field alerts to physicians, pharmacists and hospitals;

reformulation of the product, additional nonclinical or clinical studies, changes in labeling or changes to or reapprovals of manufacturing facilities may be required;

- we may be precluded from pursuing additional development opportunities to enhance the clinical profile of LINZESS within its indicated populations, as well as be precluded from studying linaclotide in additional indications, populations and formulations;

- our reputation in the marketplace may suffer; and

- government investigations or lawsuits, including class action suits, may be brought against us.

Any of the above occurrences would harm or prevent sales of linaclotide, increase our expenses and impair our ability to successfully commercialize linaclotide.

Furthermore, with LINZESS and CONSTELLA commercially available in certain countries and used in wider populations and in less rigorously controlled environments than in clinical studies, and as we and Allergan explore development opportunities to enhance the clinical profile of LINZESS through additional clinical trials, the number of patients treated with linaclotide within and outside of its current indications or patient populations may expand, which could result in the identification of previously unknown side effects, increased frequency or severity of known side effects, or detection of unexpected safety signals. As a result, regulatory authorities, healthcare practitioners, third party payers or patients may perceive or conclude that the use of linaclotide is associated with serious adverse effects, undermining our commercialization efforts.

In addition, the FDA-approved label for LINZESS contains a boxed warning about its use in pediatric patients. LINZESS is contraindicated in pediatric patients up to 6 years of age based on nonclinical data from studies in neonatal mice approximately equivalent to human pediatric patients less than 2 years of age. There is also a warning advising physicians to avoid the use of LINZESS in pediatric patients 6 through 17 years of age. This warning is based on data in young juvenile mice and the lack of clinical safety and efficacy data in pediatric patients of any age group. We and Allergan have established a nonclinical and clinical post-marketing plan with the FDA to understand the safety and efficacy of LINZESS in pediatric patients, which is discussed below.

We rely entirely on contract manufacturers and our collaboration partners to manufacture and distribute linaclotide. If they are unable to comply with applicable regulatory requirements, unable to source sufficient raw materials, experience manufacturing or distribution difficulties, or are otherwise unable to manufacture and distribute sufficient quantities to meet demand, our commercialization efforts may be materially harmed.

We have no internal manufacturing or distribution capabilities. Instead, we rely on a combination of contract manufacturers and our partners to manufacture linaclotide API and final linaclotide drug product, and to distribute that drug product to third party purchasers. We and certain of our partners have commercial supply agreements with independent third parties to manufacture the linaclotide API used to support all of our partnered and unpartnered territories. Each of Allergan and Astellas is responsible for drug product and finished goods manufacturing (including bottling and packaging) for its respective territories, and distributing the finished goods to wholesalers. Among our drug product manufacturers, only Allergan has manufactured linaclotide on a commercial scale. We have an agreement with an independent third party to serve as an additional source of drug product manufacturing of linaclotide for our partnered territories and we have worked with our partners to achieve sufficient redundancy in this component of the linaclotide supply chain. Under our collaboration with AstraZeneca, we are accountable for drug product and finished goods manufacturing for China, Hong Kong and Macau.

Each of our linaclotide API and drug product manufacturers must comply with current good manufacturing practices, or GMP, and other stringent regulatory requirements enforced by the FDA and foreign regulatory authorities in other jurisdictions. These requirements include, among other things, quality control, quality assurance and the maintenance of records and documentation, which occur in addition to our quality assurance release of linaclotide API. Manufacturers of linaclotide may

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be unable to comply with these GMP requirements and with other regulatory requirements. We have little control over our manufacturers' or collaboration partners' compliance with these regulations and standards.

Our manufacturers may experience problems with their respective manufacturing and distribution operations and processes, including for example, quality issues, including product specification and stability failures, procedural deviations, improper equipment installation or operation, utility failures, contamination and natural disasters. In addition, our API manufacturers acquire the raw materials necessary to make linaclotide API from a limited number of sources. Any delay or disruption in the availability of these raw materials or a change in raw material suppliers could result in production disruptions, delays or higher costs with consequent adverse effects on us.

The manufacture of pharmaceutical products requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. Manufacturers of pharmaceutical products often encounter difficulties in commercial production. These problems include difficulties with production costs and yields, quality control, including stability of the product and quality assurance testing, and shortages of qualified personnel, as well as compliance with federal, state and foreign regulations and the challenges associated with complex supply chain management. Even if our manufacturers do not experience problems and commercial manufacturing is achieved, their maximum or available manufacturing capacities may be insufficient to meet commercial demand. Finding alternative manufacturers or adding additional manufacturers requires a significant amount of time and involves significant expense. New manufacturers would need to develop and implement the necessary production techniques and processes, which along with their facilities, would need to be inspected and approved by the regulatory authorities in each applicable territory.

If our API or drug product manufacturers fail to adhere to applicable GMP or other regulatory requirements, experience delays or disruptions in the availability of raw materials or experience manufacturing or distribution problems, we will suffer significant consequences, including product seizures or recalls, loss of product approval, fines and sanctions, reputational damage, shipment delays, inventory shortages, inventory write-offs and other product-related charges and increased manufacturing costs. If we experience any of these results, or if our manufacturers' maximum or available capacities are insufficient to meet demand, we may not be able to successfully commercialize linaclotide.

If any of our partners undergoes a change in control or in management, this may adversely affect our collaborative relationship or the success of the commercialization of LINZESS in the U.S. or the continued launches and commercialization of CONSTELLA in the E.U., or the ability to achieve regulatory approval, launch and commercialize linaclotide in our other partnered territories.

We work jointly and collaboratively with each of our partners on many aspects of the development, manufacturing and commercialization of linaclotide. In doing so, we have established relationships with several key members of the management teams of our linaclotide partners in functional areas such as development, quality, regulatory, drug safety and pharmacovigilance, operations, marketing, sales, field operations and medical science. Further, the success of our collaborations is highly dependent on the resources, efforts and skills of our partners and their key employees. As we and our partners commercialize LINZESS in the U.S., continue to launch and commercialize CONSTELLA in the E.U. and develop, launch and commercialize linaclotide in other parts of the world, the drug's success becomes more dependent on us maintaining highly collaborative and well aligned partnerships. In November 2015, Allergan and Pfizer Inc. entered into a definitive agreement providing for the combination of the two companies. If the transaction is completed, or if our partners otherwise undergo a change of control or in management, we will need to reestablish many relationships and confirm continued alignment on our development and commercialization strategy for linaclotide. Further, in connection with any change of control or in management, there is inherent uncertainty and disruption in operations, which could result in distraction, inefficiencies, and misalignment of priorities.

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As a result, in the event of a change of control or in management at one of our partners, we cannot be sure that we will be able to successfully execute on our development and commercialization strategy for linaclotide in an effective and efficient manner and without disruption or reduced performance. Finally, any change of control or in management may result in a reprioritization of linaclotide within a partner's portfolio, or such partner may fail to maintain the financial or other resources necessary to continue supporting its portion of the development, manufacturing or commercialization of linaclotide.

If any of our partners undergoes a change of control and the acquirer either is unable to perform such partner's obligations under its collaboration or license agreement with us or has a product that competes with linaclotide that such acquirer does not divest, we have the right to terminate the collaboration or license agreement and reacquire that partner's rights with respect to linaclotide. If we elect to exercise these rights in such circumstances, we will need to either establish the capability to develop, manufacture and commercialize linaclotide in that partnered territory on our own or we will need to establish a relationship with a new partner. We have assembled a team of specialists in manufacturing, quality, sales, marketing, payer, pricing and field operations, and specialized medical scientists, who represent the functional areas necessary for a successful commercial launch of a high potential, GI therapy and who support the commercialization of LINZESS in the U.S. If Allergan was subject to a change of control that allowed us to further commercialize LINZESS in the U.S. on our own, and we chose to do so, we would need to enhance each of these functional aspects to replace the capabilities that Allergan was previously providing to the collaboration. Any such transition might result in a period of reduced efficiency or performance by our operations and commercialization teams, which could adversely affect our ability to commercialize LINZESS.

Although many members of our global operations, commercial and medical affairs teams have strategic oversight of, and a certain level of involvement in, their functional areas globally, we do not have corresponding operational capabilities in these areas outside of the U.S. If Allergan, Astellas or AstraZeneca was subject to a change of control that allowed us to continue linaclotide's development or commercialization anywhere outside of the U.S. on our own, and we chose to do so rather than establishing a relationship with a new partner, we would need to build operational capabilities in the relevant territory. In any of these situations, the timeline and likelihood of achieving regulatory approval and, ultimately, the commercialization of linaclotide could be negatively impacted.

We must work effectively and collaboratively with Allergan to market and sell LINZESS in the U.S. in order for it to achieve its maximum commercial potential.

We are working closely with Allergan to implement our joint commercialization plan for LINZESS. The commercialization plan includes an agreed upon marketing campaign that targets the physicians who see patients who could benefit from LINZESS treatment. Our marketing campaign also targets the adult men and women who suffer from IBS-C or CIC. Our commercialization plan also includes an integrated call plan for our sales forces to optimize the education of specific gastroenterologists and primary care physicians on whom our and Allergan's sales representatives call, and the frequency with which the representatives meet with them.

In order to optimize the commercial potential of LINZESS, we and Allergan must execute upon this commercialization plan effectively and efficiently. In addition, we and Allergan must continually assess and modify our commercialization plan in a coordinated and integrated fashion in order to adapt to the promotional response. Further, we and Allergan must continue to focus and refine our marketing campaign to ensure a clear and understandable physician-patient dialogue around IBS-C, CIC and the potential for LINZESS as an appropriate therapy. In addition, we and Allergan must provide our sales forces with the highest quality support, guidance and oversight in order for them to continue to effectively promote LINZESS to gastroenterologists and primary care physicians. If we and Allergan fail to perform these commercial functions in the highest quality manner and in accordance with our joint commercialization plan and related agreements, LINZESS will not achieve its maximum commercial potential and we may suffer financial harm. Our efforts to further target and engage adult patients with IBS-C or CIC may not effectively increase appropriate patient awareness or patient/physician dialogue, and may not increase the revenues that we generate from LINZESS.

We are subject to uncertainty relating to pricing and reimbursement policies which, if not favorable for linaclotide, could hinder or prevent linaclotide's commercial success.

Our and Allergan's ability to commercialize LINZESS in the U.S. successfully depends in part on the coverage and reimbursement levels set by governmental authorities, private health insurers and other third-party payers. In determining whether to approve reimbursement for LINZESS and at what level, we expect that third-party payers will consider factors that include the efficacy, cost effectiveness and safety of LINZESS, as well as the availability of other treatments including generic prescription drugs and over-the-counter alternatives. Further, in order to maintain acceptable reimbursement levels and access for patients at copay levels that are reasonable and customary, we may face increasing pressure to offer discounts or rebates from list prices or discounts to a greater number of third-party payers or other unfavorable pricing modifications. Obtaining and maintaining favorable reimbursement can be a time consuming and expensive process, and there is no guarantee that we or Allergan will be able to continue to negotiate pricing terms with third-party payers at levels that are profitable to us, or at all. Certain third-party payers also require prior authorization for, or even refuse to provide, reimbursement for LINZESS, and others may do so in the future. Our business would be materially adversely affected if we and Allergan are not able to receive approval for reimbursement of LINZESS from third-party payers on a broad, timely or satisfactory basis; if reimbursement is subject to overly broad or restrictive prior authorization requirements; or if reimbursement is not maintained at a satisfactory level or becomes subject to prior authorization. In addition, our business could be adversely affected if private health insurers, including managed care organizations, the Medicare or Medicaid programs or other reimbursing bodies or payers limit or reduce the indications for or conditions under which LINZESS may be reimbursed.

We expect to experience pricing pressures in connection with the sale of linaclotide and our future products due to the healthcare reforms discussed below, as well as the trend toward programs aimed at reducing healthcare costs, the increasing influence of managed care, the ongoing debates on reducing government spending and additional legislative proposals. These healthcare reform efforts or any future legislation or regulatory actions aimed at controlling and reducing healthcare costs, including through measures designed to limit reimbursement, restrict access or impose unfavorable pricing modifications on pharmaceutical products, could impact our and our partners' ability to obtain or maintain reimbursement for LINZESS at a satisfactory level, or at all, which could materially harm our business and financial results.

In some foreign countries, particularly Canada and the countries of Europe, the pricing and payment of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take six to 12 months or longer after the receipt of regulatory approval and product launch. To obtain favorable reimbursement for the indications sought or pricing approval in some countries, we and our partners may be required to conduct a clinical trial that compares the cost-effectiveness of our products, including linaclotide, to other available therapies. In addition, in countries in which linaclotide is the only approved therapy for a particular indication, such as CONSTELLA as the only product approved for the symptomatic treatment of moderate to severe IBS-C in adults in Europe, there may be disagreement as to what the most comparable product is, or if there even is one. Further, several European countries have implemented government measures to either freeze or reduce pricing of pharmaceutical products. Many third-party payers and governmental authorities also consider the price for which the same product is being sold in other countries to determine their own pricing and reimbursement strategy, so if linaclotide is priced low or gets limited reimbursement in a particular country, this could result in similarly low pricing and reimbursement in other countries. If reimbursement for our products is unavailable in any country in which reimbursement is sought, limited in scope or amount, or if pricing is set at or reduced to unsatisfactory levels, our ability to successfully commercialize linaclotide in such country would be impacted negatively. Furthermore, if these measures prevent us or any of our partners from selling linaclotide on a profitable basis in a particular country, they could prevent the commercial launch or continued sale of linaclotide in that country.

If the pricing and reimbursement of CONSTELLA in the E.U. is low, our royalty revenues based on sales of linaclotide will be adversely affected.

In the second quarter of 2013, our former European partner Almirall began commercializing CONSTELLA in Europe for the symptomatic treatment of moderate to severe IBS-C in adults. In October 2015, Almirall transferred its exclusive license to develop and commercialize linaclotide in Europe to Allergan. Currently, CONSTELLA is commercially available in certain European countries, including the United Kingdom, Italy and Spain.

The pricing and reimbursement strategy is a key component of Allergan's commercialization plan for CONSTELLA in Europe. Reimbursement sources are different in each country, and each country may include a combination of distinct potential payers, including private insurance and governmental payers. Countries in Europe may restrict the range of medicinal products for which their national health insurance systems provide reimbursement and control the prices of medicinal products for human use. Our revenues may suffer if Allergan is unable to successfully and timely conclude reimbursement, price approval or funding processes and market CONSTELLA in key member states of the E.U., or if coverage and reimbursement for CONSTELLA is limited or reduced. If Allergan is not able to obtain coverage, pricing or reimbursement on acceptable terms or at all, or if such terms change in any countries in its territory, Allergan may not be able to, or may decide not to, sell CONSTELLA in such countries. Further, Allergan could sell CONSTELLA at a low price. Since we receive royalties on net sales of CONSTELLA in the E.U., which is correlated directly to the price at which Allergan sells CONSTELLA in the E.U., our royalty revenues globally could be limited should Allergan sell CONSTELLA at a low price or elect not to launch in a certain country within the E.U.

Because we work with partners to develop, manufacture and commercialize linaclotide, we are dependent upon third parties, and our relationships with those third parties, in our efforts to commercialize LINZESS and to obtain regulatory approval for, and to commercialize, linaclotide in our other partnered territories.

Allergan played a significant role in the conduct of the clinical trials for linaclotide and in the subsequent collection and analysis of data, and Allergan holds the NDA for LINZESS. In addition, we are commercializing LINZESS in the U.S. with Allergan. Allergan is also responsible for the development, regulatory approval and commercialization of linaclotide in Canada and Mexico, which, for Mexico, it had sublicensed its commercialization rights to Almirall. In October 2015, in connection with the transfer of the exclusive license to develop and commercialize linaclotide in Europe to Allergan, Almirall and Allergan terminated the sublicense arrangement with respect to Mexico, returning the exclusive rights to commercialize linaclotide in Mexico to Allergan. As a result, Allergan is also commercializing LINZESS in Mexico and CONSTELLA in Canada, as well as commercializing CONSTELLA in certain countries in Europe, with responsibility for obtaining regulatory approval of linaclotide in the other countries in its territory. Astellas, our partner in Japan, is responsible for completing the clinical programs and obtaining regulatory approval of linaclotide in its territory. Further, we are jointly overseeing the development, and will jointly oversee the commercialization, of linaclotide in China, Hong Kong and Macau through our collaboration with AstraZeneca, with AstraZeneca having primary responsibility for the local operational execution. Upon any approval, each of Astellas and AstraZeneca, as well as Allergan for the European region, is responsible for commercializing linaclotide in its respective territory, and each has agreed to use commercially

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reasonable efforts to do so. Each of our partners is responsible for reporting adverse event information from its territory to us. Finally, each of our partners, other than AstraZeneca, is responsible for drug product manufacturing of linaclotide and making it into finished goods (including bottling and packaging) for its respective territory. The integration of our efforts with our partners' efforts is subject to the uncertainty of the markets for pharmaceutical products in each partner's respective territories, and accordingly, these relationships must evolve to meet any new challenges that arise in those regions.

These integrated functions may not be carried out effectively and efficiently if we fail to communicate and coordinate with our partners, and vice versa. Our partnering strategy imposes obligations, risks and operational requirements on us as the central node in our global network of partners. If we do not effectively communicate with each partner and ensure that the entire network is making integrated and cohesive decisions focused on the global brand for linaclotide, linaclotide will not achieve its maximum commercial potential. As the holder of the global safety database for linaclotide, we are responsible for coordinating the safety surveillance and adverse event reporting efforts worldwide. If we are unsuccessful in doing so due to poor process, execution, oversight, communication, adjudication or otherwise, then our and our partner's ability to obtain and maintain regulatory approval of linaclotide will be at risk.

We have limited ability to control the amount or timing of resources that our partners devote to linaclotide. If any of our partners fails to devote sufficient time and resources to linaclotide, or if its performance is substandard, it will delay the potential submission or approval of regulatory applications for linaclotide, as well as the manufacturing and commercialization of linaclotide in the particular territory. A material breach by any of our partners of our collaboration or license agreement with such partner, or a significant disagreement between us and a partner, could also delay the regulatory approval and commercialization of linaclotide, potentially lead to costly litigation, and could have a material adverse impact on our financial condition. Moreover, although we have non-compete restrictions in place with each of our partners, they may have relationships with other commercial entities, some of which may compete with us. If any of our partners assists our competitors, it could harm our competitive position.

Even though LINZESS is approved by the FDA for the treatment of adults with IBS-C or CIC, it faces post-approval development and regulatory requirements, which will present additional challenges.

In August 2012, the FDA approved LINZESS as a once-daily treatment for adult men and women suffering from IBS-C or CIC. LINZESS is subject to ongoing FDA requirements governing the labeling, packaging, storage, advertising, promotion, recordkeeping and submission of safety and other post-market information.

LINZESS is contraindicated in pediatric patients up to 6 years of age based on nonclinical data from studies in neonatal mice approximately equivalent to human pediatric patients less than 2 years of age. There is also a warning advising physicians to avoid the use of LINZESS in pediatric patients 6 through 17 years of age. This warning is based on data in young juvenile mice and the lack of clinical safety and efficacy data in pediatric patients of any age group. We and Allergan have established a nonclinical and clinical post-marketing plan with the FDA to understand the safety and efficacy of LINZESS in pediatric patients. The first step in this plan was to undertake additional nonclinical studies to further understand the results of the earlier neonatal mouse study and to understand the tolerability of LINZESS in older juvenile mice. We and Allergan have completed these nonclinical studies and have initiated two Phase II clinical pediatric studies in IBS-C patients age seven to 17 and functional constipation patients age six to 17. Our ability to conduct clinical studies in younger pediatric patients will depend, in part, on the safety and efficacy data from our clinical studies in older pediatric patients. Our ability to ever expand the indication for LINZESS to pediatrics will depend on, among other things, our successful completion of pediatric clinical studies.

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We and Allergan have also committed to certain nonclinical and clinical studies aimed at understanding: (a) whether orally administered linaclotide can be detected in breast milk, (b) the potential for antibodies to be developed to linaclotide, and if so, (c) whether antibodies specific for linaclotide could have any therapeutic or safety implications. We expect to complete these studies over the next two to four years.

These post-approval requirements impose burdens and costs on us. Failure to complete the required studies and meet our other post-approval commitments would lead to negative regulatory action at the FDA, which could include withdrawal of regulatory approval of LINZESS for the treatment of adults with IBS-C or CIC.

Manufacturers of drug products and their facilities are subject to continual review and periodic inspections by the FDA and other regulatory authorities for compliance with GMP regulations. If we or a regulatory agency discovers previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with a facility where the product is manufactured, a regulatory agency may impose restrictions on that product or the manufacturer, including requiring implementation of a risk evaluation and mitigation strategy program, withdrawal of the product from the market or suspension of manufacturing. If we, our partners or the manufacturing facilities for linaclotide fail to comply with applicable regulatory requirements, a regulatory agency may:

- issue warning letters or untitled letters;
- impose civil or criminal penalties;
- suspend or withdraw regulatory approval;
- suspend any ongoing clinical trials;
- refuse to approve pending applications or supplements to applications submitted by us;
- impose restrictions on operations, including costly new manufacturing requirements; or
- seize or detain products or require us to initiate a product recall.

Even though linaclotide is approved for marketing in the U.S. as LINZESS and in the E.U. as CONSTELLA, and is approved for marketing in a number of other countries, we or our collaborators may never receive approval to commercialize linaclotide in additional parts of the world.

In order to market any products outside of the countries where linaclotide is approved, we or our partners must comply with numerous and varying regulatory requirements of other jurisdictions regarding safety and efficacy. Approval procedures vary among jurisdictions and can involve product testing and administrative review periods different from, and greater than, those in the U.S., the E.U. and the other countries where linaclotide is approved. Potential risks include that the regulatory authorities:

- may not deem linaclotide safe and effective;
- may not find the data from nonclinical studies and clinical trials sufficient to support approval;
- may not approve of manufacturing processes and facilities;

may not approve linaclotide for any or all indications or patient populations for which approval is sought;

may require significant warnings or restrictions on use to the product label for linaclotide; or

may change their approval policies or adopt new regulations.

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If any of the foregoing were to occur, our receipt of regulatory approval in the applicable jurisdiction could be delayed or we may never receive approval at all. Further, regulatory approval in one jurisdiction does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one jurisdiction may have a negative effect on the regulatory processes in others. If linaclotide is not approved for all indications or patient populations or with the label requested, this would limit the uses of linaclotide and have an adverse effect on its commercial potential or require costly post-marketing studies.

We face potential product liability exposure, and, if claims brought against us are successful, we could incur substantial liabilities.

The use of our product candidates in clinical trials and the sale of marketed products expose us to product liability claims. If we do not successfully defend ourselves against product liability claims, we could incur substantial liabilities. In addition, regardless of merit or eventual outcome, product liability claims may result in:

- decreased demand for approved products;
- impairment of our business reputation;
- withdrawal of clinical trial participants;
- initiation of investigations by regulators;
- litigation costs;
- distraction of management's attention from our primary business;
- substantial monetary awards to patients or other claimants;
- loss of revenues; and
- the inability to commercialize our product candidates.

We currently have product liability insurance coverage for the commercial sale of linaclotide and for the clinical trials of our product candidates which is subject to industry-standard terms, conditions and exclusions. Our insurance coverage may not be sufficient to reimburse us for expenses or losses associated with claims. Moreover, insurance coverage is becoming increasingly expensive, and, in the future, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses. On occasion, large judgments have been awarded in lawsuits based on drugs that had unanticipated side effects. A successful product liability claim or series of claims could cause our stock price to decline and, if judgments exceed our insurance coverage, could decrease our cash and adversely affect our business.

We may face competition in the IBS-C and CIC marketplace, and new products may emerge that provide different or better alternatives for treatment of GI conditions.

Linaclotide competes globally with certain prescription therapies and over-the-counter products for the treatment of IBS-C and CIC, or their associated symptoms. The availability of prescription competitors and over-the-counter products for GI conditions could limit the demand, and the price we are able to charge, for linaclotide unless we are able to differentiate linaclotide on the basis of its actual or perceived benefits. New developments, including the development of other drug technologies and methods of preventing the incidence of disease, occur in the pharmaceutical and medical technology industries at a rapid pace. These developments may render linaclotide obsolete or noncompetitive.

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We believe other companies are developing products which could compete with linaclotide, should they be approved by the FDA or foreign regulatory authorities. Currently, there are compounds in late stage development and other potential competitors are in earlier stages of development for the treatment of patients with either IBS-C or CIC. If our potential competitors are successful in completing drug development for their drug candidates and obtain approval from the FDA or foreign regulatory authorities, they could limit the demand for linaclotide.

In addition, certain of our competitors have substantially greater financial, technical and human resources than us. Mergers and acquisitions in the pharmaceutical industry may result in even more resources being concentrated in our competitors. Competition may increase further as a result of advances made in the commercial applicability of technologies and greater availability of capital for investment in these fields.

We will incur significant liability if it is determined that we are promoting any "off-label" use of LINZESS or any other product.

Physicians are permitted to prescribe drug products and medical devices for uses that are not described in the product's labeling and that differ from those approved by the FDA or other applicable regulatory agencies. Such "off-label" uses are common across medical specialties. Although the FDA and other regulatory agencies do not regulate a physician's choice of treatments, the FDA and other regulatory agencies do restrict communications on the subject of off-label use. Companies are not permitted to promote drugs or medical devices for off-label uses. Accordingly, we do not permit promotion of LINZESS in the U.S. for use in any indications other than IBS-C or CIC or in any patient populations other than adult men and women. Similarly, we do not permit promotion of any other approved product we develop, license, co-promote or otherwise partner for any indication, population or use not described in such product's label. The FDA and other regulatory and enforcement authorities actively enforce laws and regulations prohibiting promotion of off-label uses and the promotion of products for which marketing approval has not been obtained. A company that is found to have promoted off-label uses will be subject to significant liability, including civil and administrative remedies as well as criminal sanctions.

Notwithstanding the regulatory restrictions on off-label promotion, the FDA and other regulatory authorities allow companies to engage in truthful, non-misleading, and non-promotional scientific exchange concerning their products. We intend to engage in medical education activities and communicate with healthcare providers in compliance with all applicable laws, regulatory guidance and industry best practices. Although we believe we have put in place a robust compliance program, which is designed to ensure that all such activities are performed in a legal and compliant manner, we cannot be certain that our program will address all areas of potential exposure and the risks in this area cannot be entirely eliminated.

If we fail to comply with healthcare and other regulations, we could face substantial penalties and our business, operations and financial condition could be adversely affected.

LINZESS and the other products that we promote are marketed in the U.S. and/or covered by federal healthcare programs, and, as a result, certain federal and state healthcare laws and regulations pertaining to product promotion and fraud and abuse are applicable to, and may affect, our business. These laws and regulations include:

- federal healthcare program anti-kickback laws, which prohibit, among other things, persons from soliciting, receiving or providing remuneration, directly or indirectly, to induce either the referral of an individual, for an item or service or the purchasing or ordering of a good or service, for which payment may be made under federal healthcare programs such as Medicare and Medicaid;

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- federal false claims laws which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, information or claims for payment from Medicare, Medicaid, or other third-party payers that are false or fraudulent, and which may apply to us for reasons including providing coding and billing advice to customers;

- the federal Health Insurance Portability and Accountability Act of 1996, which prohibits executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters and which also imposes certain requirements relating to the privacy, security and transmission of individually identifiable health information;

- the Federal Food, Drug, and Cosmetic Act, which among other things, strictly regulates drug product and medical device marketing, prohibits manufacturers from marketing such products for off-label use and regulates the distribution of samples;

- federal laws that require pharmaceutical manufacturers to report certain calculated product prices to the government or provide certain discounts or rebates to government authorities or private entities, often as a condition of reimbursement under government healthcare programs;

- the so-called "federal sunshine" law, which requires pharmaceutical and medical device companies to monitor and report certain financial interactions with physicians and other healthcare professionals and healthcare organizations to the federal government for re-disclosure to the public; and

- state law equivalents of the above federal laws, such as anti-kickback and false claims laws which may apply to items or services reimbursed by any third-party payer, including commercial insurers, state transparency laws and state laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and often are not preempted by federal laws, thus complicating compliance efforts.

Our global activities are subject to the U.S. Foreign Corrupt Practices Act which prohibits corporations and individuals from paying, offering to pay, or authorizing the payment of anything of value to any foreign government official, government staff member, political party, or political candidate in an attempt to obtain or retain business or to otherwise influence a person working in an official capacity. We are also subject to similar anti-bribery laws in the other countries in which we do business.

If our operations are found to be in violation of any of the laws described above or any other laws, rules or regulations that apply to us, we will be subject to penalties, including civil and criminal penalties, damages, fines and the curtailment or restructuring of our operations. Any penalties, damages, fines, curtailment or restructuring of our operations could adversely affect our ability to operate our business and our financial results. Although compliance programs can mitigate the risk of investigation and prosecution for violations of these laws, rules or regulations, we cannot be certain that our program will address all areas of potential exposure and the risks in this area cannot be entirely eliminated, particularly because the requirements and government interpretations of the requirements in this space are constantly evolving. Any action against us for violation of these laws, rules or regulations, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business, as well as damage our business or reputation. Moreover, achieving and sustaining compliance with applicable federal and state privacy, security, fraud and reporting laws may prove costly.

Healthcare reform and other governmental and private payer initiatives may have an adverse effect upon, and could prevent, our product's or product candidates' commercial success.

The U.S. government and individual states are aggressively pursuing healthcare reform, as evidenced by the passing of the Patient Protection and Affordable Care Act, as modified by the Health

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Care and Education Reconciliation Act of 2010. These healthcare reform laws contain several cost containment measures that could adversely affect our future revenue, including, for example, increased drug rebates under Medicaid for brand name prescription drugs, extension of Medicaid rebates to Medicaid managed care plans, and extension of so-called 340B discounted pricing on pharmaceuticals sold to certain healthcare providers. Additional provisions of the healthcare reform laws that may negatively affect our future revenue and prospects for profitability include the assessment of an annual fee based on our proportionate share of sales of brand name prescription drugs to certain government programs, including Medicare and Medicaid, as well as mandatory discounts on pharmaceuticals sold to certain Medicare Part D beneficiaries. Other aspects of healthcare reform, such as expanded government enforcement authority and heightened standards that could increase compliance-related costs, could also affect our business.

In addition to governmental efforts in the U.S., foreign jurisdictions as well as private health insurers and managed care plans are likely to continue challenging manufacturers' ability to obtain reimbursement, as well as the level of reimbursement, for pharmaceuticals and other healthcare-related products and services. These cost-control initiatives could significantly decrease the available coverage and the price we might establish for linaclotide and our other potential products, which would have an adverse effect on our financial results.

The Food and Drug Administration Amendments Act of 2007 also provides the FDA enhanced post-marketing authority, including the authority to require post-marketing studies and clinical trials, labeling changes based on new safety information, and compliance with risk evaluations and mitigation strategies approved by the FDA. We and Allergan have established a nonclinical and clinical post-marketing plan with the FDA to understand the safety and efficacy of LINZESS in pediatrics, which is discussed above. The FDA's exercise of this authority has resulted (and is expected to continue to result) in increased development-related costs following the commercial launch of LINZESS for the treatment of adult men and women suffering from IBS-C or CIC, and could result in potential restrictions on the sale and/or distribution of LINZESS, even in its approved indications and patient populations.

In pursuing our growth strategy, we will incur a variety of costs and may devote resources to potential opportunities that are never completed or for which we never receive the benefit. Our failure to successfully discover, acquire, develop and market additional product candidates or approved products would impair our ability to grow and adversely affect our business.

As part of our growth strategy, we intend to explore further linaclotide development opportunities. We and Allergan are exploring development opportunities to enhance the clinical profile of LINZESS by seeking to expand its utility in its indicated populations, as well as studying linaclotide in additional indications, populations and formulations to assess its potential to treat various GI conditions. These development efforts may fail or may not increase the revenues that we generate from LINZESS. Furthermore, they may result in adverse events, or perceived adverse events, in certain patient populations that are then attributed to the currently approved patient population, which may result in adverse regulatory action at the FDA or in other countries or harm linaclotide's reputation in the marketplace, each of which could materially harm our revenues from linaclotide.

We are also pursuing various other programs in our pipeline. We may spend several years and make significant investments in developing any current or future internal product candidate, and failure may occur at any point. Our product candidates are in various stages of development and must satisfy rigorous standards of safety and efficacy before they can be approved for sale by the FDA. To satisfy these standards, we must allocate resources among our various development programs and we must engage in costly and lengthy discovery and development efforts, which are subject to unanticipated delays and other significant uncertainties. Despite our efforts, our product candidates may not offer therapeutic or other improvement over existing competitive drugs, be proven safe and effective in

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clinical trials, or meet applicable regulatory standards. It is possible that none of the product candidates we are developing will be approved for commercial sale, which would impair our ability to grow.

We have ongoing or planned nonclinical and clinical trials for linaclotide and a number of our internal product candidates, and the strength of our company's pipeline will depend in large part on the outcomes of these studies. Many companies in the pharmaceutical industry have suffered significant setbacks in clinical trials even after achieving promising results in earlier nonclinical or clinical trials. The findings from our completed nonclinical studies may not be replicated in later clinical trials, and our clinical trials may not be predictive of the results we may obtain in later-stage clinical trials or of the likelihood of regulatory approval. Results from our clinical trials and findings from our nonclinical studies could lead to abrupt changes in our development activities, including the possible limitation or cessation of development activities associated with a particular product candidate or program. Furthermore, our analysis of data obtained from nonclinical and clinical activities is subject to confirmation and interpretation by the FDA and other applicable regulatory authorities, which could delay, limit or prevent regulatory approval. Satisfaction of FDA or other applicable regulatory requirements is costly, time-consuming, uncertain and subject to unanticipated delays.

In addition, because our internal research capabilities are limited, we may be dependent upon pharmaceutical and biotechnology companies, academic scientists and other researchers to sell or license products or technology to us. The success of this strategy depends partly upon our ability to identify, select, discover and acquire promising pharmaceutical product candidates and products. The process of proposing, negotiating and implementing a license or acquisition of a product candidate or approved product is lengthy and complex. Other companies, including some with substantially greater financial, marketing and sales resources, may compete with us for the license or acquisition of product candidates and approved products. We have limited resources to identify and execute the acquisition or in-licensing of third-party products, businesses and technologies and integrate them into our current infrastructure. Moreover, we may devote resources to potential acquisitions or in-licensing opportunities that are never completed, or we may fail to realize the anticipated benefits of such efforts. We may not be able to acquire the rights to additional products or product candidates on terms that we find acceptable, or at all.

In addition, future acquisitions may entail numerous operational and financial risks, including:

- exposure to unknown liabilities;
- disruption of our business and diversion of our management's time and attention to develop acquired products, product candidates or technologies;
- incurrence of substantial debt, dilutive issuances of securities or depletion of cash to pay for acquisitions;
- higher than expected acquisition and integration costs;
- difficulty in combining the operations and personnel of any acquired businesses with our operations and personnel;
- increased amortization expenses;
- impairment of relationships with key suppliers or customers of any acquired businesses due to changes in management and ownership; and
- inability to motivate key employees of any acquired businesses.

Further, any product candidate that we acquire may require additional development efforts prior to commercial sale, including extensive clinical testing and approval by the FDA and applicable foreign regulatory authorities. All product candidates are prone to risks of failure typical of pharmaceutical

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product development, including the possibility that a product candidate will not be shown to be sufficiently safe and effective for approval by regulatory authorities.

Delays in the completion of clinical testing of any of our product candidates could result in increased costs and delay or limit our ability to generate revenues.

Delays in the completion of clinical testing could significantly affect our product development costs. We do not know whether planned clinical trials will be completed on schedule, if at all. The commencement and completion of clinical trials can be delayed for a number of reasons, including delays related to:

- obtaining regulatory approval to commence a clinical trial;
- reaching agreement on acceptable terms with prospective clinical research organizations, or CROs, and trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- manufacturing sufficient quantities of a product candidate for use in clinical trials;
- obtaining institutional review board approval to conduct a clinical trial at a prospective site;
- recruiting and enrolling patients to participate in clinical trials for a variety of reasons, including competition from other clinical trial programs for the treatment of similar conditions; and
- maintaining patients who have initiated a clinical trial but may be prone to withdraw due to side effects from the therapy, lack of efficacy or personal issues, or who are lost to further follow-up.

Clinical trials may also be delayed as a result of ambiguous or negative interim results. In addition, a clinical trial may be suspended or terminated by us, an institutional review board overseeing the clinical trial at a clinical trial site (with respect to that site), the FDA, or other regulatory authorities due to a number of factors, including:

- failure to conduct the clinical trial in accordance with regulatory requirements or the study protocols;
- inspection of the clinical trial operations or trial sites by the FDA or other regulatory authorities resulting in the imposition of a clinical hold;
- unforeseen safety issues; or
- lack of adequate enrollment or funding to continue the clinical trial.

Additionally, changes in regulatory requirements and guidance may occur, and we may need to amend clinical trial protocols to reflect these changes. Each protocol amendment would require institutional review board review and approval, which may adversely impact the costs, timing or successful completion of the associated clinical trials. If we experience delays in completion, or if we terminate any of our clinical trials, the commercial prospects for our product candidate may be harmed, and our ability to generate product revenues will be delayed. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval.

We may not be able to manage our business effectively if we lose any of our current management team or if we are unable to attract and motivate key personnel.

We may not be able to attract or motivate qualified management and scientific, clinical, operations and commercial personnel in the future due to the intense competition for qualified personnel among biotechnology, pharmaceutical and other businesses, particularly in the greater-Boston area. If we are

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not able to attract and motivate necessary personnel to accomplish our business objectives, we will experience constraints that will significantly impede the achievement of our objectives.

We are highly dependent on the drug discovery, development, regulatory, commercial, financial and other expertise of our management, particularly Peter M. Hecht, Ph.D., our chief executive officer; Mark G. Currie, Ph.D., our senior vice president, chief scientific officer and president of research and development; Tom Graney, our chief financial officer and senior vice president, finance and corporate strategy; Thomas A. McCourt, our senior vice president, marketing and sales and chief commercial officer; and Halley E. Gilbert, our senior vice president, chief legal officer, and secretary. Transitions in our senior management team may result in operational disruptions, and our business may be harmed as a result. In addition to the competition for personnel, the Boston area in particular is characterized by a high cost of living. As such, we could have difficulty attracting experienced personnel to our company and may be required to expend significant financial resources in our employee recruitment efforts.

We also have scientific and clinical advisors who assist us in formulating our product development, clinical strategies and our global supply chain plans, as well as sales and marketing advisors who have assisted us in our commercialization strategy and brand plan for linaclotide. These advisors are not our employees and may have commitments to, or consulting or advisory contracts with, other entities that may limit their availability to us, or may have arrangements with other companies to assist in the development and commercialization of products that may compete with ours.

Security breaches and other disruptions could compromise our information and expose us to liability, which would cause our business and reputation to suffer.

In the ordinary course of our business, we collect and store sensitive data, including intellectual property, our proprietary business information and that of our suppliers and business partners, as well as personally identifiable information of linaclotide patients, clinical trial participants and employees. We also have outsourced elements of our information technology structure, and as a result, we are managing independent vendor relationships with third parties who may or could have access to our confidential information. Similarly, our business partners and other third party providers possess certain of our sensitive data. The secure maintenance of this information is critical to our operations and business strategy. Despite our security measures, our information technology and infrastructure may be vulnerable to attacks by hackers or breached due to employee error, malfeasance or other disruptions. We, our partners, vendors and other third party providers could be susceptible to third party attacks on our, and their, information security systems, which attacks are of ever increasing levels of sophistication and are made by groups and individuals with a wide range of motives and expertise, including criminal groups. Any such breach could compromise our, and their, networks and the information stored there could be accessed, publicly disclosed, lost or stolen. Any such access, disclosure or other loss of information could result in legal claims or proceedings, liability under laws that protect the privacy of personal information, disrupt our operations, and damage our reputation, any of which could adversely affect our business.

Our business involves the use of hazardous materials, and we must comply with environmental laws and regulations, which can be expensive and restrict how we do business.

Our activities involve the controlled storage, use and disposal of hazardous materials. We are subject to federal, state, city and local laws and regulations governing the use, manufacture, storage, handling and disposal of these hazardous materials. Although we believe that the safety procedures we use for handling and disposing of these materials comply with the standards prescribed by these laws and regulations, we cannot eliminate the risk of accidental contamination or injury from these materials. In the event of an accident, local, city, state or federal authorities may curtail the use of these materials and interrupt our business operations. We do not currently maintain hazardous materials insurance coverage.

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Risks Related to Intellectual Property

Limitations on our patent rights relating to our product candidates may limit our ability to prevent third parties from competing against us.

Our success depends on our ability to obtain and maintain patent protection for our product candidates, preserve our trade secrets, prevent third parties from infringing upon our proprietary rights and operate without infringing upon the proprietary rights of others.

The strength of patents in the pharmaceutical industry involves complex legal and scientific questions and can be uncertain. Patent applications in the U.S. and most other countries are confidential for a period of time until they are published, and publication of discoveries in scientific or patent literature typically lags actual discoveries by several months or more. As a result, we cannot be certain that we were the first to conceive inventions covered by our patents and pending patent applications or that we were the first to file patent applications for such inventions. In addition, we cannot be certain that our patent applications will be granted, that any issued patents will adequately protect our intellectual property, or that such patents will not be challenged, narrowed, invalidated or circumvented.

We have several issued patents and pending applications in the U.S. related to LINZESS, including a LINZESS composition of matter and methods of use patent (U.S. Patent 7,304,036) and two patents relating to our commercial, room temperature stable formulation of linaclotide and methods of using this formulation. We also have additional U.S. patents and applications covering processes for making LINZESS, formulations and dosing regimens thereof, and molecules related to LINZESS. Although none of these issued patents currently is subject to a patent reexamination or review, we cannot guarantee that they will not be subject to reexamination or review by the U.S. Patent and Trademark Office, or the USPTO, in the future. If any or all of our LINZESS-related patents were invalidated, we would still have at least five years of marketing exclusivity under the Hatch-Waxman Act from FDA approval of LINZESS. We believe that each of the patents in our linaclotide patent portfolio was rightfully issued and the portfolio gives us sufficient freedom to operate; however, if any of our present or future patents is invalidated, this could have an adverse effect on our business and financial results, particularly for the period beyond five years following marketing approval.

In March 2013, an opposition to one of our granted patents covering linaclotide was filed in Europe. In April 2015, the patent was upheld in its entirety by the European Patent Office, affirming the strength of our intellectual property and our belief that the opposition was without merit. We believe that this patent was appropriately granted but we cannot be certain of this until the opposition proceedings, including the associated appeals process, are complete. While the opposition is ongoing, we will incur additional expense and be required to focus additional efforts on the proceedings. However, even if this patent were ultimately found to be invalid, we have other composition of matter- and use-related linaclotide patents that are granted and in force, and we believe these patents provide strong and sufficient patent protection in Europe.

Furthermore, the America Invents Act, which was signed into law in 2011, has made several major changes in the U.S. patent statutes. These changes will permit third parties to challenge our patents more easily and will create uncertainty with respect to the interpretation and practice of U.S. patent law for the foreseeable future.

We also rely upon unpatented trade secrets, unpatented know-how and continuing technological innovation to develop and maintain our competitive position, which we seek to protect, in part, by confidentiality agreements with our employees and our collaborators and consultants. We also have agreements with our employees and selected consultants that obligate them to assign their inventions to us. It is possible, however, that technology relevant to our business will be independently developed by a person that is not a party to such an agreement. Furthermore, if the employees and consultants that

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are parties to these agreements breach or violate the terms of these agreements, we may not have adequate remedies, and we could lose our trade secrets through such breaches or violations. Further, our trade secrets could otherwise become known or be independently discovered by our competitors.

In addition, the laws of certain foreign countries do not protect proprietary rights to the same extent or in the same manner as the U.S., and, therefore, we may encounter problems in protecting and defending our intellectual property in certain foreign jurisdictions.

If we are sued for infringing intellectual property rights of third parties, it will be costly and time consuming, and an unfavorable outcome in such litigation could have a material adverse effect on our business.

Our commercial success depends on our ability, and the ability of our collaborators, to develop, manufacture, market and sell our products and use our proprietary technologies without infringing the proprietary rights of third parties. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we and our collaborators are developing products. As the biotechnology and pharmaceutical industry expands and more patents are issued, the risk increases that our potential products may give rise to claims of infringement of the patent rights of others. There may be issued patents of third parties of which we are currently unaware that may be infringed by linaclotide or our product candidates. Because patent applications can take many years to issue, there may be currently pending applications which may later result in issued patents that linaclotide or our product candidates may infringe.

We may be exposed to, or threatened with, litigation by third parties alleging that linaclotide or our product candidates infringe their intellectual property rights. If linaclotide or one of our product candidates is found to infringe the intellectual property rights of a third party, we or our collaborators could be enjoined by a court and required to pay damages and could be unable to commercialize linaclotide or the applicable product candidate unless we obtain a license to the intellectual property rights. A license may not be available to us on acceptable terms, if at all. In addition, during litigation, the counter-party could obtain a preliminary injunction or other equitable relief which could prohibit us from making, using or selling our products, pending a trial on the merits, which may not occur for several years.

There is a substantial amount of litigation involving patent and other intellectual property rights in the biotechnology and pharmaceutical industries generally. If a third party claims that we or our collaborators infringe its intellectual property rights, we may face a number of issues, including, but not limited to:

- infringement and other intellectual property claims which, regardless of merit, may be expensive and time-consuming to litigate and may divert our management's attention from our core business;

- substantial damages for infringement, which we may have to pay if a court decides that the product at issue infringes on or violates the third party's rights, and, if the court finds that the infringement was willful, we could be ordered to pay treble damages and the patent owner's attorneys' fees;

- a court prohibiting us from selling our product unless the third party licenses its rights to us, which it is not required to do;

- if a license is available from a third party, we may have to pay substantial royalties, fees or grant cross-licenses to our intellectual property rights; and

- redesigning our products so they do not infringe, which may not be possible or may require substantial monetary expenditures and time.

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We may become involved in legal proceedings to protect or enforce our patents, which could be expensive and time consuming, and unfavorable outcomes in such proceedings could have a material adverse effect on our business.

Competitors may infringe our patents or may assert our patents are invalid. To counter ongoing or potential infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. Litigation with generic manufacturers has become increasingly common in the biotechnology and pharmaceutical industries. In addition, in an infringement or invalidity proceeding, a court or patent administrative body may determine that a patent of ours is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. One or more generic drug manufacturers may file abbreviated new drug applications, or ANDAs, with the FDA for generic versions of LINZESS. Generic drug manufacturers will first be able to file ANDAs in August 2016, but we may not become aware of these filings for several months after any such submission due to procedures specified under applicable FDA regulations. When filing an ANDA for LINZESS, a generic drug manufacturer may choose to challenge one or more of the patents that cover LINZESS. As such, we may need to protect our intellectual property rights by bringing legal proceedings against the generic drug manufacturer.

Additionally, the validity of our patents may be challenged by third parties pursuant to administrative procedures introduced by the American Invents Act, specifically *inter partes* review, or IPR, and/or post grant review, or PGR, before the USPTO. Generic drug manufacturers may challenge our patents through IPRs or PGRs instead of or in addition to ANDA legal proceedings. Patent litigation, IPRs and PGRs involve complex legal and factual questions and we may need to devote significant resources to such legal proceedings. We can provide no assurance concerning the duration or the outcome of any such patent-related lawsuits or administrative proceedings. An adverse result in any litigation or defense proceedings could put one or more of our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing, which would materially harm our business.

Interference or derivation proceedings brought by the USPTO may be necessary to determine the priority of inventions with respect to our patents and patent applications or those of our collaborators. An unfavorable outcome could require us to cease using the technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if a prevailing party does not offer us a license on terms that are acceptable to us. Litigation or interference proceedings may fail and, even if successful, may result in substantial costs and distraction of our management and other employees. In addition, we may not be able to prevent, alone or with our collaborators, misappropriation of our proprietary rights, particularly in countries where the laws may not protect those rights as fully as in the U.S.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, as well as the potential for public announcements of the results of hearings, motions or other interim proceeding or developments, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation.

Risks Related to Our Finances and Capital Requirements

We have incurred significant losses since our inception and cannot guarantee when, if ever, we will become profitable.

In recent years, we have focused primarily on developing, manufacturing and commercializing linaclotide, as well as developing our other product candidates. We have financed our business to date primarily through the issuance of equity, our collaboration and license arrangements, our January 2013 issuance of our 11% PhaRMA Notes due 2024, or the PhaRMA Notes, related to the sales of

LINZESS in the U.S. and our June 2015 issuance of our 2.25% Convertible Senior Notes due June 15, 2022, or the 2022 Notes, and we have incurred losses in each year since our inception in 1998. We currently derive substantially all of our revenue from our LINZESS collaboration with Allergan for the U.S. and believe that the revenues from this collaboration will continue to constitute a significant portion of our total revenue for the foreseeable future. We incurred net losses of approximately $142.7 million, $189.6 million and $272.8 million in the years ended December 31, 2015, 2014 and 2013, respectively. As of December 31, 2015, we had an accumulated deficit of approximately $1.1 billion. We cannot be certain that sales of LINZESS and the revenue from our other commercial activities will not fall short of our projections or be delayed. Further, we expect to continue to incur substantial expenses in connection with our efforts to commercialize linaclotide and our research and development of our product candidates. Because of the numerous risks and uncertainties associated with developing and commercializing pharmaceutical products, as well as those related to our expectations for LINZESS and our other commercial activities, we are unable to predict the extent of any future losses or guarantee when, or if, our company will become profitable or cash flow positive. If we never achieve profitability or positive cash flows, or achieve either later than we anticipate, this will have an adverse effect on our stockholders' equity and working capital.

We may need additional funding and may be unable to raise capital when needed, which could cause us to delay, reduce or eliminate our product development programs or commercialization efforts.

In June 2015, we issued approximately $335.7 million aggregate principal amount of our 2022 Notes and we have previously raised additional funds through other capital raising activities, including the sale of shares of our Class A common stock in public offerings and the issuance of our PhaRMA Notes in January 2013. However, marketing and selling a primary care drug, purchasing commercial quantities of pharmaceutical products, and developing product candidates and conducting clinical trials are expensive and uncertain. Circumstances, our strategic imperatives, or opportunities to create or acquire new programs, as well as maturities, redemptions or repurchases of our outstanding debt securities, could require us to, or we may choose to, seek to raise additional funds. The amount and timing of our future funding requirements will depend on many factors, including, but not limited to:

- the level of underlying demand for linaclotide by prescribers and patients in the U.S., the E.U. and the other countries where it is approved;
- the costs associated with commercializing LINZESS in the U.S.;
- the costs of maintaining and expanding sales, marketing and distribution capabilities for linaclotide;
- the regulatory approval of linaclotide outside of the U.S., the E.U. and the other countries where it is approved, and the timing of commercial launches in those countries, as well as the associated development and commercial milestones and royalties;
- the rate of progress, the cost of our clinical trials and the other costs associated with our product development programs, including our post-approval nonclinical and clinical studies of linaclotide in pediatrics and our investment to enhance the clinical profile of LINZESS within its indicated populations, as well as to study linaclotide in additional indications, populations and formulations to assess its potential to treat various GI conditions;
- the costs and timing of in-licensing additional products or product candidates or acquiring other complementary companies;
- the status, terms and timing of any collaboration, licensing, co-commercialization or other arrangements;

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- the timing of any regulatory approvals of our product candidates;
- whether the holders of our 2022 Notes hold the notes to maturity without conversion into our Class A common stock and whether we are required to repurchase our 2022 Notes prior to maturity upon a fundamental change, as defined in the indenture governing the 2022 Notes; and
- whether we seek to redeem or repurchase all or part of our outstanding debt through cash purchases and/or exchanges, in open market purchases, privately negotiated transactions, by tender offer or otherwise.

Additional funding may not be available on acceptable terms or at all. If adequate funds are not available, we may be required to delay or reduce the scope of our commercialization efforts, delay, reduce or eliminate one or more of our development programs or delay or abandon potential strategic opportunities.

Our ability to pay principal of and interest on our outstanding debt securities will depend in part on the receipt of payments from Allergan under our collaboration agreement for North America.

In January 2013, we issued $175.0 million aggregate principal amount of our PhaRMA Notes bearing an annual interest rate of 11% and in June 2015, we issued approximately $335.7 million aggregate principal amount of our 2022 Notes bearing an annual interest rate of 2.25%. Quarterly interest payments on our PhaRMA Notes commenced on June 15, 2013 and semi-annual payments on our 2022 Notes commenced on December 15, 2015. In March 2014, we began making quarterly payments on the PhaRMA Notes equal to the greater of (i) 7.5% of net sales of LINZESS in the U.S. for the preceding quarter and (ii) the quarterly interest amount. Principal on the PhaRMA Notes is repaid in an amount equal to the difference between (i) and (ii) above, when this is a positive number, until the principal has been paid in full. We expect that for the next few years, at a minimum, the net quarterly payments from Allergan will be our primary source of cash flow from operations. If the cash flows derived from the net quarterly payments that we receive from Allergan under the collaboration agreement for North America are insufficient on any particular payment date to fund the interest payment on our outstanding indebtedness, at a minimum, we will be obligated to pay the amounts of such shortfall out of our general funds. The determination of whether Allergan will be obligated to make a net quarterly payment to us in respect of a particular quarterly period is a function of the revenue generated by LINZESS in the U.S. as well as the development, manufacturing and commercialization expenses incurred by each of us and Allergan under the collaboration agreement for North America. Accordingly, since we cannot guarantee when, or if, our company will become profitable or cash flow positive, we cannot provide assurances that (i) we will have the available funds to fund the interest payment on our outstanding indebtedness, at a minimum, in the event that there is a deficiency in the net quarterly payment received from Allergan, (ii) there will be a net quarterly payment from Allergan at all or (iii) we will not also be required to make a true-up payment to Allergan under the collaboration agreement for North America, in each case, in respect of a particular quarterly period.

Our indebtedness could adversely affect our financial condition or restrict our future operations.

As of December 31, 2015, we had total indebtedness of approximately $496.8 million and available cash, cash equivalents and available for sale securities of $439.4 million. We chose to issue our PhaRMA Notes and 2022 Notes based on the additional strategic optionality that they create for us, and the limited restrictions that these debt securities place on our ability to run our business compared to other potential available financing transactions. However, our indebtedness, combined with our other

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financial obligations and contractual commitments, could have other important consequences on our business, including:

- limiting our ability to obtain additional financing to fund future working capital, capital expenditures or other general corporate purposes, including product development, commercialization efforts, research and development activities, strategic arrangements, acquisitions and refinancing of our outstanding debt;
- requiring a substantial portion of our cash flow to be dedicated to debt service payments instead of other purposes, thereby reducing the amount of cash flow available for working capital, capital expenditures, corporate transactions and other general corporate purposes;
- increasing our vulnerability to adverse changes in general economic, industry and competitive conditions;
- limiting our flexibility in planning for and reacting to changes in the industry in which we compete;
- placing us at a disadvantage compared to other, less leveraged competitors or competitors with comparable debt at more favorable interest rates; and
- increasing our cost of borrowing.

If we do not generate sufficient cash flow from operations or if future borrowings are not available to us in an amount sufficient to pay our indebtedness, including payments of principal when due on our outstanding indebtedness or, in the case of our 2022 Notes, in connection with a transaction involving us that constitutes a fundamental change under the indenture governing the 2022 Notes, or to fund our liquidity needs, we may be forced to refinance all or a portion of our indebtedness on or before the maturity dates thereof, sell assets, reduce or delay currently planned activities or curtail operations, seek to raise additional capital or take other actions. We may not be able to execute any of these actions on commercially reasonable terms or at all. This, together with any of the factors described above, could materially and adversely affect our business, financial condition and results of operations.

In addition, while our 2022 Notes do not include covenants restricting the operation of our business except in certain limited circumstances, in the event of a default under the 2022 Notes, the noteholders or the trustee under the indenture governing the 2022 Notes may accelerate our payment obligations under the 2022 Notes, which could have a material adverse effect on our business, financial condition and results of operations. We are also required to offer to repurchase the 2022 Notes upon the occurrence of a fundamental change, which could include, among other things, any acquisition of our company (other than an acquisition in which at least 90% of the consideration is common stock listed on The NASDAQ Global or Global Select Market or The New York Stock Exchange), subject to the terms of the 2022 Notes indenture. The repurchase price must be paid in cash, and this obligation may have the effect of discouraging, delaying or preventing an acquisition of our company that would otherwise be beneficial to our security holders.

Further, although we are not as restricted under our PhaRMA Notes as we might have been under a more traditional secured credit facility provided by a bank, the indenture governing our PhaRMA Notes contains a number of restrictive covenants that impose restrictions on us and may limit our ability to engage in certain acts, including restrictions on our ability to:

- amend our collaboration agreement with Allergan for North America in a way that would have a material adverse effect on the noteholders' rights, or terminate this collaboration agreement with respect to the U.S.;
- transfer our rights to commercialize the product under our collaboration agreement with Allergan for North America; and

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incur certain liens.

Upon a breach of the covenants under our PhaRMA Notes indenture, or if certain other defaults thereunder occur, the holders of our PhaRMA Notes could elect to declare all amounts outstanding under our PhaRMA Notes to be immediately due and payable and we cannot be certain that we will have sufficient assets to repay them. If we are unable to repay those amounts, the holders of our PhaRMA Notes could proceed against the collateral granted to them to secure the debt securities and we could be forced into bankruptcy or liquidation. If we breach our covenants under our PhaRMA Notes indenture and seek a waiver, we may not be able to obtain a waiver from the required noteholders. If this occurs, we would be in default under our PhaRMA Notes indenture and the holders of our PhaRMA Notes could exercise their rights, as described above.

Each of our 2022 Notes and the PhaRMA Notes also include cross-default features providing that a default under the indenture governing either the 2022 Notes or the PhaRMA Notes would likely result in a default under the indenture governing the other indebtedness. In the event of such default, the trustee or noteholders could elect to declare all amounts outstanding to be immediately due and payable under the applicable indenture, which could have a material adverse effect on our business, financial condition and results of operations.

Convertible note hedge and warrant transactions entered into in connection with our 2022 Notes may affect the value of our Class A common stock.

In connection with our 2022 Notes, we entered into Convertible Note Hedges and separate Note Hedge Warrant transactions with certain financial institutions. These transactions are expected generally to reduce the potential dilution upon any conversion of our 2022 Notes or offset any cash payments we are required to make in excess of the principal amount of converted 2022 Notes, as the case may be.

In connection with these transactions, the financial institutions purchased our Class A common stock in secondary market transactions and entered into various over-the-counter derivative transactions with respect to our Class A common stock. These entities or their affiliates are likely to modify their hedge positions from time to time prior to conversion or maturity of the 2022 Notes by purchasing and selling shares of our Class A common stock or other instruments they may wish to use in connection with such hedging. Any of these activities could adversely affect the value of our Class A common stock and, as a result, the number of shares and the value of the Class A common stock noteholders will receive upon conversion of the 2022 Notes. In addition, under certain circumstances the counterparties have the right to terminate the Convertible Note Hedges and settle the Note Hedge Warrants at fair value (as defined in the applicable confirmations), which may result in us not receiving all or any portion of the anticipated benefit of the Convertible Note Hedges. If the price of our Class A common stock increases such that the hedge transactions settle in our favor, we could also be exposed to credit risk related to the counterparties to the Convertible Note Hedges, which would limit or eliminate the benefit of such transactions to us.

Our quarterly and annual operating results may fluctuate significantly.

We expect our operating results to be subject to frequent fluctuations. Our net loss and other operating results will be affected by numerous factors, including:

- the level of underlying demand for linaclotide in the U.S., the E.U. and the other countries where it is approved, and wholesalers' buying patterns;
- the costs associated with commercializing LINZESS in the U.S.;
- the achievement and timing of milestone payments under our existing collaboration and license agreements;

- our execution of any collaboration, partnership, licensing or other strategic arrangements, and the timing of payments we may make or receive under these arrangements;
- any excess or obsolete inventory or asset impairments and associated write-downs;
- variations in the level of expenses related to our development programs;
- addition or termination of clinical trials;
- regulatory developments affecting linaclotide or our product candidates; and
- any material lawsuit in which we may become involved.

If our operating results fall below the expectations of investors or securities analysts, the price of our Class A common stock could decline substantially. Furthermore, any quarterly or annual fluctuations in our operating results may, in turn, cause the price of our stock to fluctuate substantially.

Our ability to use net operating loss and tax credit carryforwards and certain built-in losses to reduce future tax payments is limited by provisions of the Internal Revenue Code, and it is possible that our net operating loss and tax credit carryforwards may expire before we generate sufficient taxable income to use such carryforwards, or that certain transactions or a combination of certain transactions may result in material additional limitations on our ability to use our net operating loss and tax credit carryforwards.

We have incurred significant net losses since our inception and cannot guarantee when, if ever, we will become profitable. To the extent that we continue to generate federal and state taxable losses, unused net operating loss and tax credit carryforwards will carry forward to offset future taxable income, if any, until such unused carryforwards expire. Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, contain rules that limit the ability of a company that undergoes an ownership change, which is generally any change in ownership of more than 50% of its stock over a three-year period, to utilize its net operating loss and tax credit carryforwards and certain built-in losses recognized in years after the ownership change. These rules generally operate by focusing on ownership changes involving stockholders owning directly or indirectly 5% or more of the stock of a company and any change in ownership arising from a new issuance of stock by the company. Generally, if an ownership change occurs, the yearly taxable income limitation on the use of net operating loss and tax credit carryforwards and certain built-in losses is equal to the product of the applicable long term tax exempt rate and the value of the company's stock immediately before the ownership change.

If we do not generate sufficient taxable income prior to the expiration of the applicable carryforwards or if the carryforwards are subject to the limitations described above, we may be unable to offset our taxable income with losses, or our tax liability with credits, before such losses and credits expire and therefore would incur larger federal or state income tax liability. We have completed several financings since our inception which may have resulted in a change in control as defined by Section 382, or could result in a change in control in the future.

Risks Relating to Securities Markets and Investment in Our Stock

Anti-takeover provisions under our charter documents and Delaware law could delay or prevent a change of control which could negatively impact the market price of our Class A common stock.

Provisions in our certificate of incorporation and bylaws may have the effect of delaying or preventing a change of control. These provisions include the following:

- Our certificate of incorporation provides for a dual class common stock structure. As a result of this structure, holders of our Class B common stock have significant influence over certain matters requiring stockholder approval, including a merger involving Ironwood, a sale of substantially all Ironwood assets and a dissolution or liquidation of Ironwood. This concentrated

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control could discourage others from initiating a change of control transaction that other stockholders may view as beneficial.

Our board of directors is divided into three classes serving staggered three-year terms, such that not all members of the board are elected at one time. This staggered board structure prevents stockholders from replacing the entire board at a single stockholders' meeting.

Our board of directors has the right to elect directors to fill a vacancy created by the expansion of the board of directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our board of directors.

Our board of directors may issue, without stockholder approval, shares of preferred stock. The ability to authorize preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to acquire us.

Stockholders must provide advance notice to nominate individuals for election to the board of directors or to propose matters that can be acted upon at a stockholders' meeting. Furthermore, stockholders may only remove a member of our board of directors for cause. These provisions may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect such acquirer's own slate of directors or otherwise attempting to obtain control of our company.

Our stockholders may not act by written consent. As a result, a holder, or holders, controlling a majority of our capital stock are not able to take certain actions outside of a stockholders' meeting.

Special meetings of stockholders may be called only by the chairman of our board of directors, our chief executive officer or a majority of our board of directors. As a result, a holder, or holders, controlling a majority of our capital stock are not able to call a special meeting.

A majority of the outstanding shares of Class B common stock are required to amend our certificate of incorporation and a super-majority (80%) of the outstanding shares of common stock are required to amend our bylaws, which make it more difficult to change the provisions described above.

In addition, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which may prohibit certain business combinations with stockholders owning 15% or more of our outstanding voting stock. These and other provisions in our certificate of incorporation and our bylaws and in the Delaware General Corporation Law could make it more difficult for stockholders or potential acquirers to obtain control of our board of directors or initiate actions that are opposed by the then-current board of directors.

The concentration of voting control on certain corporate matters with our pre-IPO stockholders will limit the ability of the holders of our Class A common stock to influence such matters.

Because of our dual class common stock structure, the holders of our Class B common stock, who consist of our pre-IPO investors (and their affiliates), founders, directors, executives and certain of our employees, are able to control certain corporate matters listed below if any such matter is submitted to our stockholders for approval even though such stockholders own less than 50% of the outstanding shares of our common stock. As of December 31, 2015, there were 127,371,478 and 15,870,356 shares of our Class A common stock and Class B common stock issued and outstanding, respectively, and an aggregate of 16,012,732 and 4,554,128 outstanding stock options (vested and unvested) and 900,051 and zero unvested restricted stock units for shares of our Class A common stock and Class B common stock, respectively. As of December 31, 2015, the holders of our Class A common stock own approximately 89% and the holders of our Class B common stock own approximately 11% of the

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outstanding shares of Class A common stock and Class B common stock, combined. However, because of our dual class common stock structure these holders of our Class A common stock have approximately 45% and holders of our Class B common stock have approximately 55% of the total votes on each of the matters identified in the list below. This concentrated control of our Class B common stockholders limits the ability of the Class A common stockholders to influence those corporate matters and, as a result, we may take actions that many of our stockholders do not view as beneficial, which could adversely affect the market price of our Class A common stock.

Each share of Class A common stock and each share of Class B common stock has one vote per share on all matters except for the following matters, for which each share of our Class B common stock has ten votes per share and each share of our Class A common stock has one vote per share:

- adoption of a merger or consolidation agreement involving Ironwood;
- a sale of all or substantially all of Ironwood's assets;
- a dissolution or liquidation of Ironwood; and
- every matter, if and when any individual, entity or "group" (as that term is used in Regulation 13D of the Exchange Act) has, or has publicly disclosed (through a press release or a filing with the SEC) an intent to have, beneficial ownership of 30% or more of the number of outstanding shares of Class A common stock and Class B common stock, combined.

If we identify a material weakness in our internal control over financial reporting, it could have an adverse effect on our business and financial results and our ability to meet our reporting obligations could be negatively affected, each of which could negatively affect the trading price of our Class A common stock.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. Accordingly, a material weakness increases the risk that the financial information we report contains material errors.

We regularly review and update our internal controls, disclosure controls and procedures, and corporate governance policies. In addition, we are required under the Sarbanes-Oxley Act of 2002 to report annually on our internal control over financial reporting. Our system of internal controls, however well designed and operated, is based in part on certain assumptions and includes elements that rely on information from third parties, including our collaboration partners. Our system can provide only reasonable, not absolute, assurances that the objectives of the system are met. If we, or our independent registered public accounting firm, determine that our internal controls over financial reporting are not effective, or we discover areas that need improvement in the future, these shortcomings could have an adverse effect on our business and financial results, and the price of our Class A common stock could be negatively affected.

Further, we are dependent on our collaboration partners for information related to our results of operations. Our net profit or net loss generated from the sales of LINZESS in the U.S. is partially determined based on amounts provided by Allergan and involves the use of estimates and judgments, which could be modified in the future. We are also highly dependent on our partners for timely and accurate information regarding any revenues realized from sales of linaclotide in their respective territories, and in the case of Allergan for the U.S. and AstraZeneca for China, Hong Kong and Macau, the costs incurred in developing and commercializing it in order to accurately report our results of operations. Our results of operations are also dependent on the timeliness and accuracy of information from any other licensing, collaboration or other partners we may have, as well as our and our partners' use of estimates and judgments. If we do not receive timely and accurate information or if estimated activity levels associated with the relevant collaboration at a given point in time are incorrect, whether the result of a material weakness or not, we could be required to record adjustments

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in future periods. Such adjustments, if significant, could have an adverse effect on our financial results, which could lead to a decline in our Class A common stock price.

If we cannot conclude that we have effective internal control over our financial reporting, or if our independent registered public accounting firm is unable to provide an unqualified opinion regarding the effectiveness of our internal control over financial reporting, investors could lose confidence in the reliability of our financial statements, which could lead to a decline in our stock price. Failure to comply with reporting requirements could also subject us to sanctions and/or investigations by the SEC, The NASDAQ Stock Market or other regulatory authorities.

We expect that the price of our Class A common stock will fluctuate substantially.

The market price of our Class A common stock may be highly volatile due to many factors, including:

- the commercial performance of linaclotide in the U.S., the E.U. and the other countries where it is approved;
- any third-party coverage and reimbursement policies for linaclotide;
- market conditions in the pharmaceutical and biotechnology sectors;
- developments, litigation or public concern about the safety of linaclotide or our potential products;
- announcements of the introduction of new products by us or our competitors;
- announcements concerning product development results, including clinical trial results, or intellectual property rights of us or others;
- actual and anticipated fluctuations in our quarterly and annual operating results;
- deviations in our operating results from any guidance we may provide or the estimates of securities analysts;
- sales of additional shares of our common stock or sales of securities convertible into common stock or the perception that these sales might occur;
- additions or departures of key personnel;
- developments concerning current or future collaboration, partnership, licensing or other strategic arrangements; and
- discussion of us or our stock price in the financial or scientific press or in online investor communities.

The realization of any of the risks described in these "Risk Factors" could have a dramatic and material adverse impact on the market price of our Class A common stock. In addition, class action litigation has often been instituted against companies whose securities have experienced periods of volatility. Any such litigation brought against us could result in substantial costs and a diversion of management attention, which could hurt our business, operating results and financial condition.

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

None.

Item 2. *Properties*

Our corporate headquarters and operations are located in Cambridge, Massachusetts, where, as of December 31, 2015, we occupy approximately 205,000 square feet of office and laboratory space. We lease approximately 312,000 square feet of office and laboratory space at our Cambridge, Massachusetts facility under our lease expiring in January 2018. In 2014, we began subleasing approximately 107,000 square feet of our total leased space to third parties under subleases expiring in 2016 and 2018. We believe that our facilities are suitable and adequate for our needs for the foreseeable future.

Item 3. *Legal Proceedings*

None.

Item 4. *Mine Safety Disclosures*

Not applicable.

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PART II

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

Shares of our Class A common stock are traded on the NASDAQ Global Select Market under the symbol "IRWD." Our shares have been publicly traded since February 3, 2010. The following table furnishes the high and low sales prices for our Class A common stock as reported by The NASDAQ Global Select Market for each quarter in the years ended December 31, 2015 and 2014:

	Class A Common Stock			
	2015		2014	
	High	Low	High	Low
First Quarter	$ 17.11	$ 14.18	$ 15.47	$ 11.22
Second Quarter	$ 16.17	$ 11.57	$ 15.83	$ 9.01
Third Quarter	$ 12.36	$ 9.77	$ 15.95	$ 11.97
Fourth Quarter	$ 12.62	$ 10.05	$ 15.62	$ 11.65

As of February 12, 2016, there were 51 stockholders of record of our Class A common stock and 78 stockholders of record of our Class B common stock. The number of record holders is based upon the actual number of holders registered on the books of the company at such date and does not include holders of shares in "street names" or persons, partnerships, associations, corporations or other entities identified in security position listings maintained by depositories.

Subject to preferences that may apply to any shares of preferred stock outstanding at the time, the holders of Class A common stock and Class B common stock are entitled to share equally in any dividends that our board of directors may determine to issue from time to time. In the event a dividend is paid in the form of shares of common stock or rights to acquire shares of common stock, the holders of Class A common stock will receive Class A common stock, or rights to acquire Class A common stock, as the case may be, and the holders of Class B common stock will receive Class B common stock, or rights to acquire Class B common stock, as the case may be.

We have never declared or paid any cash dividends on our capital stock, and we do not currently anticipate declaring or paying cash dividends on our capital stock in the foreseeable future. We currently intend to retain all of our future earnings, if any, to finance operations. Any future determination relating to our dividend policy will be made at the discretion of our board of directors and will depend on a number of factors, including future earnings, capital requirements, financial conditions, future prospects, contractual restrictions and covenants and other factors that our board of directors may deem relevant.

The information required to be disclosed by Item 201(d) of Regulation S-K, "Securities Authorized for Issuance Under Equity Compensation Plans," is referenced under Item 12 of Part III of this Annual Report on Form 10-K and incorporated herein.

Corporate Performance Graph

The following performance graph and related information shall not be deemed to be "soliciting material" or to be "filed" with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933, as amended, or the Securities Act, except to the extent that we specifically incorporate it by reference into such filing.

The following graph compares the performance of our Class A common stock to the NASDAQ Benchmark TR Index (U.S.) and to the NASDAQ Pharmaceutical Benchmark TR Index (U.S.) from February 3, 2010 (the first date that shares of our Class A common stock were publicly traded) through December 31, 2015. The comparison assumes $100 was invested after the market closed on February 3,

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2010 in our Class A common stock and in each of the presented indices, and it assumes reinvestment of dividends, if any.

COMPARISON OF QUARTERLY CUMULATIVE TOTAL RETURN
Among The NASDAQ Benchmark TR Index (U.S.),
the NASDAQ Pharmaceutical Benchmark TR Index (U.S.)
and Ironwood Pharmaceuticals, Inc.

Item 6. *Selected Consolidated Financial Data*

You should read the following selected financial data together with our consolidated financial statements and the related notes appearing elsewhere in this Annual Report on Form 10-K. We have derived the consolidated statements of operations data for the years ended December 31, 2015, 2014 and 2013 and the consolidated balance sheet data as of December 31, 2015 and 2014 from our audited financial statements included elsewhere in this Annual Report on Form 10-K. We have derived the consolidated statements of operations data for the years ended December 31, 2012 and 2011 and the consolidated balance sheet data as of December 31, 2013, 2012 and 2011 from our audited financial

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statements not included in this Annual Report on Form 10-K. Our historical results for any prior period are not necessarily indicative of results to be expected in any future period.

	Years Ended December 31,				
	2015	2014	2013	2012	2011
	(in thousands, except per share data)				
Consolidated Statement of Operations Data:					
Collaborative arrangements revenue[(1)]	$ 149,555	$ 76,436	$ 22,881	$ 150,245	$ 65,871
Cost and expenses:					
Cost of revenue	12	5,291	7,203	965	
Write-down of inventory to net realizable value and loss on non-cancellable purchase commitments[(2)]	17,638	20,292			
Research and development[(3)]	108,746	101,890	102,378	113,474	86,093
Selling, general and administrative[(3)]	125,247	118,333	123,228	92,538	45,920
Collaboration expense[(4)]			42,074	16,030	
Total cost and expenses	251,643	245,806	274,883	223,007	132,013
Loss from operations	(102,088)	(169,370)	(252,002)	(72,762)	(66,142)
Other (expense) income:					
Interest expense	(31,096)	(21,166)	(21,002)	(59)	(63)
Interest and investment income	443	257	192	197	456
Loss on derivatives[(5)]	(9,928)				
Other income		661			900
Other (expense) income, net	(40,581)	(20,248)	(20,810)	138	1,293
Net loss before income tax expense	(142,669)	(189,618)	(272,812)	(72,624)	(64,849)
Income tax expense					3
Net loss	$ (142,669)	$ (189,618)	$ (272,812)	$ (72,624)	$ (64,852)
Net loss per share basic and diluted	$ (1.00)	$ (1.39)	$ (2.35)	$ (0.68)	$ (0.65)
Weighted average number of common shares used in net loss per share basic and diluted:	142,155	136,811	115,852	106,403	99,875

(1)

Collaborative arrangements revenue for the year ended December 31, 2014 includes approximately $10.2 million related to the receipt of a milestone payment under our license agreement with Astellas for the enrollment of the first study subject in a Phase III study for linaclotide in Japan, which was achieved in November 2014, and also includes approximately $1.9 million in payments from Almirall related to the achievement of two commercial milestones under the license agreement with Almirall.

Collaborative arrangements revenue for the year ended December 31, 2013 includes approximately $1.9 million in payments from Almirall related to the achievement of two milestones under the license agreement with Almirall.

Collaborative arrangements revenue for the year ended December 31, 2012 includes an $85.0 million milestone payment received from Allergan under the collaboration agreement for North America for the achievement of two development milestones upon the FDA's approval of the linaclotide NDA for both IBS-C and CIC.

Collaborative arrangements revenue for the year ended December 31, 2011 includes a $20.0 million milestone payment received from Allergan under the collaboration agreement for

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North America for the achievement of two development milestones upon the FDA's acceptance of the linaclotide NDA for both IBS-C and CIC.

(2) During the year ended December 31, 2015, we recorded expenses of approximately $17.6 million for the write-down of inventory and an accrual for excess non-cancelable inventory purchase commitments related to linaclotide API. These charges primarily related to a reduction in the near term demand forecast for CONSTELLA in the European territory by Almirall, our former European partner; recent regulatory changes made by the China Food and Drug Administration to the marketing approval process in China; and the amendment to the license agreement with Allergan pertaining to the development and commercialization of linaclotide for Europe executed in October 2015. Pursuant to the terms of the amendment, Allergan assumed responsibility for the manufacturing of linaclotide API for Europe, as well as the associated costs, which resulted in accruing for a loss on non-cancelable inventory purchase commitments under one of our API supply agreements covering the commercial supply of linaclotide API for the European market.

During the year ended December 31, 2014, we recorded approximately $20.3 million as a write-down of inventory to an estimated net realizable value of approximately $5.0 million. This write-down was primarily attributable to Almirall's reduced inventory demand forecasts for the European territory, mainly due to the suspension of commercialization of CONSTELLA in Germany and a challenging commercial environment throughout Europe.

These charges are more fully described in Note 7, *Inventory*, to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K.

(3) During the year ended December 31, 2014, we recorded approximately $4.2 million of costs related to a reduction in workforce in the three months ended March 31, 2014, including employee severance, benefits and related costs and adjustments. These costs are reflected in our Consolidated Statement of Operations for the year ended December 31, 2014 as approximately $3.0 million in research and development expenses and approximately $1.2 million in selling, general and administrative expenses.

(4) Collaboration expense for the year ended December 31, 2011 is included in selling, general and administrative expense and was not material.

(5) Loss on derivatives consists of the change in fair value of our Convertible Note Hedges and Note Hedge Warrants, which are recorded as derivative assets and liabilities. The Convertible Note Hedges and the Note Hedge Warrants are recorded at fair value at each reporting period and changes in fair value are recorded in our consolidated statements of operations. The Convertible Note Hedges and Note Hedge Warrants are more fully described in Note 5, *Fair Value of Financial Instruments*, and Note 10, *Notes Payable*, to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K.

	Years Ended December 31,				
	2015	2014	2013	2012	2011
			(in thousands)		
Consolidated Balance Sheet Data:					
Cash, cash equivalents and available-for-sale securities	$ 439,394	$ 248,334	$ 197,602	$ 168,228	$ 164,016
Working capital (excluding deferred revenue)(1)	430,931	234,957	191,636	132,883	138,724
Total assets(1)	619,121	329,322	273,292	229,907	208,977
Deferred revenue, including current portion	8,989	16,180	16,490	21,405	57,421
Debt financing and convertible notes, including current portion(1)	378,548	169,405	169,002		
Capital lease obligations, including current portion	2,937	3,723	4,273	569	655
Total liabilities(1)	523,996	240,770	235,067	85,855	99,121
Total stockholders' equity	95,125	88,552	38,225	144,052	109,856

(1)

In April 2015, the Financial Accounting Standards Board issued Accounting Standards Update No. 2015-03, *Simplifying the Presentation of Debt Issuance Costs*, or ASU 2015-03. ASU 2015-03 requires debt issuance costs to be presented in an entity's balance sheet as a direct deduction from the associated debt liability.

We elected early adoption of ASU 2015-03 in the three months ended June 30, 2015, which resulted in a balance sheet reclassification of issuance costs in connection with our 11% PhaRMA Notes due 2024 of approximately $1.4 million recorded in prepaid expenses and other current assets and approximately $2.8 million in other assets to a reduction in PhaRMA Notes payable as of December 31, 2014, and approximately $1.5 million recorded in prepaid expenses and other current assets and approximately $4.1 million in other assets to a reduction in PhaRMA Notes payable as of December 31, 2013. The financing costs incurred in connection with the issuance of our 2.25% Convertible Senior Notes due June 15, 2022, or the 2022 Notes, were recorded as a reduction in the carrying value of such debt in accordance with ASU 2015-03. ASU 2015-03 is more fully described in Note 2, *Summary of Significant Accounting Policies*, to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K.

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

Forward-Looking Information

The following discussion of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and the notes to those financial statements appearing elsewhere in this Annual Report on Form 10-K. This discussion contains forward-looking statements that involve significant risks and uncertainties. As a result of many factors, such as those set forth under "Risk Factors" in Item 1A of this Annual Report on Form 10-K, our actual results may differ materially from those anticipated in these forward-looking statements.

Overview

We are a commercial biotechnology company leveraging our proven development and commercial capabilities as we seek to bring multiple medicines to patients. We are advancing two therapeutic platforms, which include product opportunities in areas of large unmet need, including irritable bowel syndrome with constipation, or IBS-C, and chronic idiopathic constipation, or CIC, vascular and fibrotic diseases, and refractory gastroesophageal reflux disease, or GERD.

Our first and to-date only commercial product, linaclotide, is available to adult men and women suffering from IBS-C or CIC in the United States, or the U.S., under the trademarked name LINZESS®, and is available to adult men and women suffering from IBS-C in certain European countries under the trademarked name CONSTELLA®. We and our U.S. partner Allergan plc (together with its affiliates), or Allergan (formerly Actavis plc), began commercializing LINZESS in the U.S. in December 2012. Under our collaboration with Allergan for North America, total net sales of LINZESS in the U.S., as recorded by Allergan, are reduced by commercial costs incurred by each party, and the resulting amount is shared equally between us and Allergan.

Our former European partner, Almirall, S.A., or Almirall, began commercializing CONSTELLA in Europe for the symptomatic treatment of moderate to severe IBS-C in adults in the second quarter of 2013. In October 2015, Almirall transferred its exclusive license to develop and commercialize linaclotide in Europe to Allergan, and we and Allergan entered into an amendment to the European license agreement to modify the remaining sales-based milestones and royalties payable to us and to provide for Allergan's assumption of responsibility for, and cost of, the manufacturing of linaclotide active pharmaceutical ingredient, or API, for Europe from us. This amendment, together with the transfer of the European license for linaclotide from Almirall to Allergan, is more fully described in Note 4, *Collaboration, License and Co-promotion Agreements,* to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K. Currently, CONSTELLA is commercially available in certain European countries, including the United Kingdom, Italy and Spain.

Within our gastrointestinal, or GI, platform, we and Allergan are exploring development opportunities to enhance the clinical profile of LINZESS by seeking to expand its utility within IBS-C and CIC, as well as studying linaclotide in additional indications and populations to assess its potential to treat various GI conditions. In October 2015, as part of this strategy, we reported positive top-line data from a Phase III clinical trial in the U.S. with Allergan evaluating a 72 mcg dose of linaclotide in adult patients with CIC. We believe these data support the submission of a supplemental new drug application, or sNDA, to the FDA for approval to market the 72 mcg dose of linaclotide in the U.S. If approved, the 72 mcg dose would provide a broader range of treatment options to physicians and adult CIC patients in the U.S. Linaclotide is also being developed and commercialized in other parts of the world by certain of our partners.

We and Allergan are also developing linaclotide colonic release, a targeted oral delivery formulation of linaclotide designed to potentially improve abdominal pain relief in adult IBS-C patients. In addition to IBS-C, we are exploring linaclotide colonic release for use in additional GI disorders where lower abdominal pain is a predominant symptom, including IBS-mixed, or IBS-M, ulcerative colitis and diverticulitis, among others.

We are also advancing other GI development programs for multiple indications. For example, we are investigating IW-3718, a gastric retentive formulation of a bile acid sequestrant that is being evaluated for the potential treatment of refractory GERD. We are also investigating IW-9179, a guanylate cyclase type-C, or GC-C, agonist designed to target upper GI conditions, for the treatment of gastroparesis and functional dyspepsia.

Within our vascular/fibrotic platform, we are leveraging our pharmacological expertise in guanylate cyclase, or GC, pathways gained through the discovery and development of linaclotide to advance development programs targeting soluble guanylate cyclase, or sGC. sGC is a validated mechanism with the potential for broad therapeutic utility and multiple opportunities for product development in vascular and fibrotic diseases, as well as other therapeutic areas. To date, we have identified two sGC development candidates, IW-1973 and IW-1701, which have distinct pharmacologic profiles that we believe may be differentiating and enable opportunities in multiple indications.

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As part of our strategy, we have also established development and commercial capabilities that we plan to leverage as we seek to bring multiple medicines to patients. We intend to play an active role in the development and commercialization of our internally developed products in the U.S., and to establish a strong global brand by out-licensing commercialization rights in other territories to high-performing partners. In addition to the U.S. and Europe, we have entered into partnerships to develop and commercialize linaclotide in other parts of the world.

In December 2013 and February 2014, linaclotide was approved in Canada and Mexico, respectively, as a treatment for adult women and men suffering from IBS-C or CIC. Allergan has exclusive rights to commercialize linaclotide in Canada as CONSTELLA and, through a sublicense from Allergan, Almirall had exclusive rights to commercialize linaclotide in Mexico as LINZESS. In May 2014, Allergan began commercializing CONSTELLA in Canada and in June 2014, Almirall began commercializing LINZESS in Mexico. In October 2015, Almirall and Allergan terminated the sublicense arrangement with respect to Mexico, returning the exclusive rights to commercialize CONSTELLA in Mexico to Allergan. CONSTELLA continues to be available to adult IBS-C patients in Mexico.

Astellas Pharma Inc., or Astellas, our partner in Japan, is developing linaclotide for the treatment of patients with IBS-C and chronic constipation in its territory. In November 2015, we and Astellas reported positive top-line data from Astellas' Phase III clinical trial of linaclotide in adult patients with IBS-C for Japan. We believe these data support the submission of a new drug application, or NDA, to the Ministry of Health, Labor and Welfare for approval to market linaclotide in Japan. In October 2012, we entered into a collaboration agreement with AstraZeneca AB, or AstraZeneca, to co-develop and co-commercialize linaclotide in China, Hong Kong and Macau, with AstraZeneca having primary responsibility for the local operational execution. In December 2015, we and AstraZeneca filed for approval with the China Food and Drug Administration, or CFDA, to market linaclotide in China. We continue to assess alternatives to bring linaclotide to IBS-C and CIC sufferers in the parts of the world outside of our partnered territories.

In March 2015, we and Exact Sciences Corp, or Exact Sciences, entered into an agreement to co-promote Cologuard®, the first and only FDA-approved noninvasive stool DNA screening test for colorectal cancer. Under the terms of the agreement, our sales team is promoting and educating health care practitioners regarding Cologuard. We are also collaborating on medical education initiatives to support more in-depth understanding of Cologuard and the importance of colorectal cancer screening. Exact Sciences maintains responsibility for all other aspects of the commercialization of Cologuard outside of the co-promotion. We are compensated via reimbursements for sales detailing, promotional support services and medical education initiatives. We also earn royalties on the net sales of Cologuard generated from the healthcare practitioners on whom we call less the sales promotion reimbursement to us.

In August 2015, we and Allergan entered into an agreement for the co-promotion of VIBERZI (eluxadoline) in the U.S., Allergan's treatment for adults suffering from IBS with diarrhea, or IBS-D. Under the terms of the agreement, our clinical sales specialists are detailing VIBERZI to the approximately 25,000 health care practitioners to whom they detail LINZESS. Allergan is responsible for all costs and activities relating to the commercialization of VIBERZI outside the co-promotion. Our promotional efforts are compensated based on the volume of calls delivered by our sales force, with the terms of the agreement reducing or eliminating certain of the unfavorable adjustments to the share of net profits stipulated by the linaclotide collaboration agreement with Allergan for North America, provided that we deliver a minimum number of VIBERZI calls on physicians. We are also compensated via reimbursement for medical education initiatives.

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In November 2015, Allergan and Pfizer Inc. entered into a definitive agreement providing for the combination of the two companies. Our collaboration for the development and commercialization of linaclotide, as well as our agreement to co-promote VIBERZI, remains in effect.

In January 2013, we closed a private placement of $175.0 million in aggregate principal amount of 11% PhaRMA Notes due 2024, or the PhaRMA Notes. As a result of the debt offering, we received aggregate net proceeds, after offering expenses, of approximately $167.3 million. During the second quarter of 2013, we sold 11,204,948 shares of our Class A common stock through a firm commitment, underwritten public offering at a price to the public of $13.00 per share. As a result of the offering, we received aggregate net proceeds, after underwriting discounts and commissions and other offering expenses, of approximately $137.8 million. In February 2014, we sold 15,784,325 shares of our Class A common stock through a firm commitment, underwritten public offering at a price to the public of $12.75 per share. As a result of this offering, we received aggregate net proceeds, after underwriting discounts and commissions and other offering expenses, of approximately $190.4 million. In June 2015, we issued approximately $335.7 million in aggregate principal amount of 2.25% Convertible Senior Notes due 2022, or the 2022 Notes. We received net proceeds of approximately $324.0 million from the sale of the 2022 Notes, after deducting fees and expenses of approximately $11.7 million. The net proceeds from these financings are being used to support the commercialization of LINZESS in the U.S. and to fund linaclotide and other development opportunities to advance our strategy to grow a leading commercial biotechnology company, in addition to other general corporate purposes.

We were incorporated in Delaware on January 5, 1998 as Microbia, Inc. On April 7, 2008, we changed our name to Ironwood Pharmaceuticals, Inc. We currently operate in one reportable business segment human therapeutics.

To date, we have dedicated substantially all of our activities to the research, development and commercialization of linaclotide, as well as to the research and development of our other product candidates. We have incurred significant operating losses since our inception in 1998. As of December 31, 2015, we had an accumulated deficit of approximately $1.1 billion. We are unable to predict the extent of any future losses or guarantee when, or if, our company will become cash flow positive.

Financial Overview

Revenue. Revenue to date has been generated primarily through our collaboration agreements for the development and commercialization of linaclotide with Allergan for North America and AstraZeneca for China, Hong Kong and Macau, our license agreements for the development and commercialization of linaclotide in Japan with Astellas and the development and commercialization of linaclotide in Europe with Allergan (formerly with Almirall), and our co-promotion agreements with Allergan for VIBERZI and Exact Sciences for Cologuard in the U.S. The terms of these agreements contain multiple deliverables which may include (i) licenses, (ii) research and development activities, (iii) the manufacture of finished drug product, API or development materials for a partner which are reimbursed at a contractually determined rate, and (iv) co-promotion activities by our clinical sales specialists. Payments to us may include (i) up-front license fees, (ii) payments for research and development activities, (iii) payments for the manufacture of finished drug product, API or development materials, (iv) payments based upon the achievement of certain milestones, (v) payments for sales detailing, promotional support services and medical education initiatives and (vi) royalties on product sales. Additionally, we receive our share of the net profits or bear our share of the net losses from the sale of linaclotide in the U.S. and China. LINZESS launched in the U.S. in December 2012 and CONSTELLA became commercially available in certain European countries beginning in the second quarter of 2013. Linaclotide is also approved in a number of other countries.

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We record our share of the net profits and losses from the sales of LINZESS in the U.S. on a net basis and present the settlement payments to and from Allergan as collaboration expense or collaborative arrangements revenue, as applicable. Net profits or losses consist of net sales to third-party customers and sublicense income in the U.S. less the cost of goods sold as well as selling, general and administrative expenses. Although we expect net sales to increase over time, the settlement payments between Allergan and us, resulting in collaborative arrangements revenue or collaboration expense, are subject to fluctuation based on the ratio of selling, general and administrative expenses incurred by each party. In addition, our collaborative arrangements revenue may fluctuate as a result of the timing and amount of license fees and clinical and commercial milestones received and recognized under our current and future strategic partnerships as well as timing and amount of royalties from the sales of linaclotide in the European, Canadian or Mexican markets or any other markets where linaclotide receives approval. In October 2015, Almirall transferred its exclusive license to develop and commercialize linaclotide in Europe to Allergan. Concurrently with the European license transfer, Almirall and Allergan terminated the sublicense arrangement with respect to Mexico, returning the exclusive rights to commercialize CONSTELLA in Mexico to Allergan. CONSTELLA continues to be available to adult IBS-C patients in Mexico. Additionally, as described above, in October 2015 we and Allergan separately entered into an amendment to the license agreement relating to the development and commercialization of linaclotide in Europe. This amendment is more fully described in Note 4, *Collaboration, License and Co-promotion Agreements,* to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K.

Cost of Revenue. Cost of revenue is recognized upon shipment of linaclotide API to certain of our licensing partners outside of the U.S. Our cost of revenue consists of the internal and external costs of producing such API.

Write-down of inventory to net realizable value and loss on non-cancelable purchase commitments. During the year ended December 31, 2015, we recorded expenses of approximately $17.6 million for the write-down of inventory and an accrual for excess non-cancelable inventory purchase commitments related to linaclotide API. These charges primarily related to a reduction in the near term demand forecast for CONSTELLA in the European territory by Almirall; recent regulatory changes made by the CFDA to the marketing approval process in China; and the amendment to the license agreement with Allergan pertaining to the development and commercialization of linaclotide for Europe executed in October 2015. Pursuant to the terms of the amendment, Allergan assumed responsibility for the manufacturing of linaclotide API for Europe, as well as the associated costs, which resulted in accruing for a loss on non-cancelable inventory purchase commitments during the three months ended September 30, 2015, under one of our API supply agreements covering the commercial supply of linaclotide API for the European market. We have evaluated all remaining minimum purchase commitments under our linaclotide API supply agreements through 2023 and concluded that the approximately $22.3 million of purchase commitments from the second API supply agreement covering the Japan, China, Hong Kong and Macau markets are realizable based on the current forecasts received from our partners in these territories and our internal forecasts.

During the year ended December 31, 2014, we wrote down approximately $20.3 million in inventory to an estimated net realizable value of approximately $5.0 million. This write down was primarily attributable to Almirall's reduced inventory demand forecasts, mainly due to the suspension of commercialization of CONSTELLA in Germany and a challenging commercial environment throughout Europe.

These charges are more fully described in Note 7, *Inventory,* to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K.

Research and Development Expense. Research and development expense consists of expenses incurred in connection with the discovery and development of our product candidates. These expenses

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consist primarily of compensation, benefits and other employee-related expenses, research and development related facility costs, third-party contract costs relating to nonclinical study and clinical trial activities, development of manufacturing processes, regulatory registration of third-party manufacturing facilities, as well as licensing fees for our product candidates. We charge all research and development expenses to operations as incurred. Under our collaboration agreements with Allergan for the U.S. and AstraZeneca for China, Hong Kong and Macau, we are reimbursed for certain research and development expenses, and we net these reimbursements against our research and development expenses as incurred. Payments to Allergan or AstraZeneca for such territories are recorded as incremental research and development expense.

The core of our research and development strategy is to leverage our development capabilities in addressing GI disorders as well as our pharmacologic expertise in GC pathways to bring multiple medicines to patients. We are advancing multiple product opportunities within two core therapeutic platforms: GI and vascular/fibrotic diseases.

Linaclotide. Our lead product is linaclotide, and it represents the largest portion of our research and development expense for our product candidates. Linaclotide is the first and, to date, only FDA-approved guanylate cyclase type-C, or GC-C, agonist. Linaclotide is approved in the U.S. and in a number of E.U. and other countries.

We and Allergan are exploring development opportunities in the U.S. to enhance the clinical profile of LINZESS by seeking to expand its utility in its indicated populations, as well as studying linaclotide in additional indications, populations and formulations to assess its potential to treat various GI conditions. In October 2015, as part of this strategy, we reported positive top-line data from a Phase III clinical trial in the U.S. with Allergan evaluating a 72 mcg dose of linaclotide in adult patients with CIC. Additionally, in November 2015, the FDA approved the inclusion of labeling instructions in the full LINZESS Prescribing Information allowing adult IBS-C and CIC patients with swallowing difficulties the option to administer the contents of LINZESS capsules in applesauce or water.

Our linaclotide development opportunities also include linaclotide colonic release, a targeted oral delivery formulation of linaclotide designed to potentially improve abdominal pain relief in adult IBS-C patients, as well as in patients with additional GI disorders where lower abdominal pain is a predominant symptom, such as IBS-M. Additionally, we and Allergan are evaluating linaclotide as a potential treatment of the GI dysfunction associated with opioid-induced constipation, or OIC, in adult patients and have established a plan with the FDA for clinical pediatric studies with linaclotide, as described below.

Development Candidates. We are advancing other development programs within our GI platform for indications such as refractory GERD and diabetic gastroparesis. This includes IW-9179, a GC-C agonist designed to target upper GI conditions, which is being explored for the treatment of diabetic gastroparesis and functional dyspepsia. Additionally, IW-3718 is a gastric retentive formulation of a bile acid sequestrant that is being evaluated for the potential treatment of refractory GERD.

Within our vascular/fibrotic platform, we are leveraging our pharmacological expertise in GC pathways gained through the discovery and development of linaclotide to advance development programs targeting sGC. To date, we have identified two sGC development candidates, IW-1973 and IW-1701, which have distinct pharmacologic profiles that we believe may be differentiating and enable opportunities in multiple indications. We have additional assets in early development that we continue to advance, and we are exploring strategic options for further development of these assets.

Discovery Research. Our discovery efforts are primarily focused on identifying novel clinical candidates that draw on our proprietary and expanding expertise in GI disorders and GC.

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The following table sets forth our research and development expenses related to our product pipeline for the years ended December 31, 2015, 2014 and 2013. These expenses relate primarily to external costs associated with nonclinical studies and clinical trial costs, costs incurred to develop manufacturing processes and register manufacturing facilities with the FDA, and licensing fees for our product candidates. We allocate costs related to facilities, depreciation, share-based compensation, research and development support services, laboratory supplies and certain other costs directly to programs.

	Years Ended December 31,		
	2015	2014	2013
		(in thousands)	
Linaclotide[(1)]	$ 48,981	$ 48,340	$ 46,048
Development candidates:			
GI disorders (three compounds)[(2)]	19,152	15,992	11,068
Vascular and fibrotic disorders (two compounds)[(2)]	20,465	11,775	
Central nervous system disorders (one compound)[(2)]	1,653	2,190	14,793
Allergic disorders			916
Total development candidates	41,270	29,957	26,777
Discovery research	18,495	23,593	29,553
	$ 108,746	$ 101,890	$ 102,378

(1) Includes linaclotide in all indications, populations and formulations.

(2) Number of compounds is for the year ended December 31, 2015.

Since 2004, the date we began tracking costs by program, we have incurred approximately $355.7 million of research and development expenses related to linaclotide. The expenses for linaclotide include both our portion of the research and development costs incurred by Allergan for the U.S. and AstraZeneca for China, Hong Kong and Macau and invoiced to us under the cost-sharing provisions of our collaboration agreements, as well as the unreimbursed portion of research and development costs incurred by us under such cost-sharing provisions.

The lengthy process of securing regulatory approvals for new drugs requires the expenditure of substantial resources. Any failure by us to obtain, or any delay in obtaining, regulatory approvals would materially adversely affect our product development efforts and our business overall. In August 2012, the FDA approved our New Drug Applications for LINZESS as a once-daily treatment for adult men and women suffering from IBS-C or CIC. In connection with the FDA approval, we are required to conduct certain nonclinical and clinical studies, including those aimed at understanding: (a) whether orally administered linaclotide can be detected in breast milk, (b) the potential for antibodies to be developed to linaclotide, and if so, (c) whether antibodies specific for linaclotide could have any therapeutic or safety implications. In addition, we and Allergan established a nonclinical and clinical post-marketing plan with the FDA to understand the efficacy and safety of LINZESS in pediatric patients. The first step in this plan was to undertake certain additional nonclinical studies. We and Allergan have completed these nonclinical studies and have initiated two Phase II clinical pediatric studies in IBS-C patients age seven to 17 and functional constipation patients age six to 17. We and Allergan are also exploring development opportunities to enhance the clinical profile of LINZESS by seeking to expand its utility within IBS-C and CIC, as well as studying linaclotide in additional indications, populations and formulations to assess its potential to treat various GI conditions. In October 2012, we entered into a collaboration agreement with AstraZeneca to co-develop and co-commercialize linaclotide in China, Hong Kong and Macau, with AstraZeneca having primary responsibility for the local operational execution. We cannot currently estimate with any degree of

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certainty the amount of time or money that we will be required to expend in the future on linaclotide for other geographic markets, within its indicated population or in additional indications, populations or formulations. We are also advancing multiple other GI development programs targeting diseases such as refractory GERD and diabetic gastroparesis, as well as development programs within our vascular/fibrotic platform targeting sGC. Given the inherent uncertainties that come with the development of pharmaceutical products, we cannot estimate with any degree of certainty how our programs will evolve, and therefore the amount of time or money that would be required to obtain regulatory approval to market them. As a result of these uncertainties surrounding the timing and outcome of any approvals, we are currently unable to estimate precisely when, if ever, linaclotide's utility will be expanded in its indicated population; if or when linaclotide will be developed outside of its current markets, indications, populations or formulations; or when, if ever, any of our other product candidates will generate revenues and cash flows.

We invest carefully in our pipeline, and the commitment of funding for each subsequent stage of our development programs is dependent upon the receipt of clear, supportive data. In addition, we intend to access externally discovered drug candidates that fit within our core strategy. In evaluating these potential assets, we apply the same investment criteria as those used for investments in internally discovered assets.

The successful development of our product candidates is highly uncertain and subject to a number of risks including, but not limited to:

- The duration of clinical trials may vary substantially according to the type, complexity and novelty of the product candidate.
- The FDA and comparable agencies in foreign countries impose substantial and varying requirements on the introduction of therapeutic pharmaceutical products, typically requiring lengthy and detailed laboratory and clinical testing procedures, sampling activities and other costly and time-consuming procedures.
- Data obtained from nonclinical and clinical activities at any step in the testing process may be adverse and lead to discontinuation or redirection of development activity. Data obtained from these activities also are susceptible to varying interpretations, which could delay, limit or prevent regulatory approval.
- The duration and cost of discovery, nonclinical studies and clinical trials may vary significantly over the life of a product candidate and are difficult to predict.
- The costs, timing and outcome of regulatory review of a product candidate may not be favorable.
- The emergence of competing technologies and products and other adverse market developments may negatively impact us.

As a result of the factors discussed above, including the factors discussed under "Risk Factors" in Item 1A of this Annual Report on Form 10-K, we are unable to determine the duration and costs to complete current or future nonclinical and clinical stages of our product candidates or when, or to what extent, we will generate revenues from the commercialization and sale of our product candidates. Development timelines, probability of success and development costs vary widely. We anticipate that we will make determinations as to which additional programs to pursue and how much funding to direct to each program on an ongoing basis in response to the data of each product candidate, the competitive landscape and ongoing assessments of such product candidate's commercial potential. As a result of the regulatory approvals beginning in 2012, linaclotide has been generating sales in connection with commercial launches in the U.S. and a number of E.U. and other countries.

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We expect our research and development costs will be substantial for the foreseeable future. We will continue to invest in linaclotide including the investigation of ways to enhance the clinical profile within its indicated population and the exploration of its utility in other indications, populations and formulations. We will also invest in our other product candidates as we advance them through nonclinical studies and clinical trials, in addition to funding full-time equivalents for research and development activities under our external collaboration and license agreements.

Selling, General and Administrative Expense. Selling, general and administrative expense consists primarily of compensation, benefits and other employee-related expenses for personnel in our administrative, finance, legal, information technology, business development, commercial, sales, marketing, communications and human resource functions. Other costs include the legal costs of pursuing patent protection of our intellectual property, general and administrative related facility costs, insurance costs and professional fees for accounting and legal services. As we continue to invest in the commercialization of LINZESS, we expect our selling, general and administrative expenses will be substantial for the foreseeable future. We charge all selling, general and administrative expenses to operations as incurred.

Under our AstraZeneca collaboration agreement, we are reimbursed for certain selling, general and administrative expenses and we net these reimbursements against our selling, general and administrative expenses as incurred. We include Allergan's selling, general and administrative cost-sharing payments in the calculation of the net profits and net losses from the sale of LINZESS in the U.S. and present the net payment to or from Allergan as collaboration expense or collaborative arrangements revenue, respectively.

Collaboration Expense. Collaboration expense represents settlement payments due to Allergan on 50% of LINZESS net sales in the U.S. as well as cost of goods sold and selling, general and administrative cost-sharing settlement between us and Allergan.

Other (Expense) Income. Interest expense consists primarily of cash and non-cash interest costs related to our outstanding PhaRMA Notes and the 2022 Notes. Non-cash interest expense consists of amortization of the debt discount and associated debt issuance costs associated with the PhaRMA Notes and 2022 Notes. We amortize these costs using the effective interest rate method over the life of the respective note agreements as interest expense in our statements of operations.

Interest income consists of interest earned on our cash, cash equivalents and marketable securities.

In June 2015, in connection with the issuance of the 2022 Notes, we entered into convertible note hedge transactions, or the Convertible Note Hedges. Concurrently with entering into the Convertible Note Hedges, we also entered into certain warrant transactions in which we sold note hedge warrants, or the Note Hedge Warrants, to the Convertible Note Hedge counterparties to acquire 20,249,665 shares of our Class A common stock, subject to customary anti-dilution adjustments. Loss on derivatives consists of the change in fair value of the Convertible Note Hedges and Note Hedge Warrants, which are recorded as derivative assets and liabilities. The Convertible Note Hedges and the Note Hedge Warrants are recorded at fair value at each reporting period and changes in fair value are recorded in our consolidated statements of operations.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations is based upon our consolidated financial statements prepared in accordance with U.S. generally accepted accounting principles. The preparation of these financial statements requires us to make certain estimates and assumptions that may 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 amounts of revenues and expenses during the reported periods. Significant estimates and assumptions in our consolidated

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financial statements include those related to revenue recognition, available-for-sale securities, inventory valuation, and related reserves; impairment of long-lived assets; initial valuation procedures for the issuance of convertible notes; fair value of derivatives; balance sheet classification of notes payable and convertible notes; income taxes, including the valuation allowance for deferred tax assets; research and development expenses; contingencies and share-based compensation. We base our estimates on our historical experience and on various other assumptions that are believed to be reasonable, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Actual results may differ materially from our estimates under different assumptions or conditions. Changes in estimates are reflected in reported results in the period in which they become known.

We believe that our application of the following accounting policies, each of which require significant judgments and estimates on the part of management, are the most critical to aid in fully understanding and evaluating our reported financial results. Our significant accounting policies are more fully described in Note 2, *Summary of Significant Accounting Policies*, to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K.

Revenue Recognition

Our revenue is generated primarily through collaborative research and development, licensing and co-promotion agreements. The terms of these agreements contain multiple deliverables which may include (i) licenses, (ii) research and development activities, including participation on joint steering committees, (iii) the manufacture of finished drug product, API or development materials for a partner, which are reimbursed at a contractually determined rate, and (iv) co-promotion activities by our clinical sales specialists. Non-refundable payments to us under these agreements may include (i) up-front license fees, (ii) payments for research and development activities, (iii) payments for the manufacture of finished drug product, API or development materials, (iv) payments based upon the achievement of certain milestones, (v) payments for sales detailing, promotional support services and medical education initiatives, and (vi) royalties on product sales. Additionally, we may receive our share of the net profits or bear our share of the net losses from the sale of linaclotide in the U.S. and China through our collaborations with Allergan and AstraZeneca, respectively.

We evaluate revenue from new agreements that have multiple elements under the guidance of Accounting Standards Update, or ASU, No. 2009-13, *Multiple-Deliverable Revenue Arrangements*, or ASU 2009-13. We also evaluate whether amendments to our multiple element arrangements are considered material modifications that are subject to the application of ASU 2009-13. This evaluation requires us to assess all relevant facts and circumstances and to make subjective determinations and judgments. As part of this assessment, we consider whether the modification results in a material change to the arrangement, including whether there is a change in total arrangement consideration that is more than insignificant, whether there are changes in the deliverables included in the arrangement, whether there is a change in the term of the arrangement and whether there is a significant modification to the delivery schedule for contracted deliverables.

We identify the deliverables included within multiple element agreements and evaluate which deliverables represent separate units of accounting. We account for those components as separate elements when the following criteria are met:

- the delivered items have value to the customer on a stand-alone basis; and

- if there is a general right of return relative to the delivered items, delivery or performance of the undelivered items is considered probable and within our control.

This evaluation requires subjective determinations and requires us to make judgments about the individual deliverables and whether such deliverables are separable from the other aspects of the contractual relationship. In determining the units of accounting, we evaluate certain criteria, including whether the deliverables have standalone value, based on consideration of the relevant facts and circumstances for each arrangement. Factors considered in this determination include the research, manufacturing and commercialization capabilities of the partner and the availability of peptide research and manufacturing expertise in the general marketplace. In addition, we consider whether the collaborator can use the license or other deliverables for their intended purpose without the receipt of the remaining elements, and whether the value of the deliverable is dependent on the undelivered items and whether there are other vendors that can provide the undelivered items.

The consideration received is allocated among the separate units of accounting using the relative selling price method, and the applicable revenue recognition criteria are applied to each of the separate units.

We determine the estimated selling price for deliverables using vendor-specific objective evidence, or VSOE, of selling price, if available, third-party evidence, or TPE, of selling price if VSOE is not available, or best estimate of selling price, or BESP, if neither VSOE nor TPE is available. Determining the BESP for a deliverable requires significant judgment. We use BESP to estimate the selling price for licenses to our proprietary technology, since we often do not have VSOE or TPE of selling price for these deliverables. In those circumstances where we utilize BESP to determine the estimated selling price of a license to our proprietary technology, we consider market conditions as well as entity-specific factors, including those factors contemplated in negotiating the agreements as well as internally developed models that include assumptions related to the market opportunity, estimated development costs, probability of success and the time needed to commercialize a product candidate pursuant to the license. In validating our BESP, we evaluate whether changes in the key assumptions used to determine the BESP will have a significant effect on the allocation of arrangement consideration between multiple deliverables.

We recognize revenue when there is persuasive evidence that an arrangement exists, services have been rendered or delivery has occurred, the price is fixed or determinable, and collection is reasonably assured.

For certain of our arrangements, particularly our license agreement with Allergan for the European territory, it is required that taxes be withheld on payments to us. We have adopted a policy to recognize revenue net of these tax withholdings.

Net Profit or Net Loss Sharing

The determination of whether we should recognize revenue on a gross or net basis involves judgment based on the relevant facts and circumstances. In accordance with Accounting Standards Codification, or ASC, Topic 808, *Collaborative Arrangements*, and ASC 605-45, *Principal Agent Considerations*, we consider the nature and contractual terms of the arrangement and the nature of our business operations to determine the classification of the transactions under our collaboration agreements. We record revenue transactions gross in the consolidated statements of operations if we are deemed the principal in the transaction, which includes being the primary obligor and having the risks and rewards of ownership.

We recognize our share of the pre-tax commercial net profit or net loss generated from the sales of LINZESS in the U.S. in the period the product sales are reported by Allergan and related cost of goods sold and selling, general and administrative expenses are incurred by us and our collaboration partner. These amounts are partially determined based on amounts provided by Allergan and involve the use of estimates and judgments, such as product sales allowances and accruals related to prompt payment discounts, chargebacks, governmental and contractual rebates, wholesaler fees, product returns, and co-payment assistance costs, which could be adjusted based on actual results in the future. We are highly dependent on Allergan for timely and accurate information regarding any net revenues realized from sales of LINZESS in the U.S. and the costs incurred in selling it, in order to accurately report our results of operations. For the periods covered in the consolidated financial statements presented, there have been no material changes to prior period estimates of revenues, cost of goods sold or selling, general and administrative expenses associated with the sales of LINZESS in the U.S. However, if we do not receive timely and accurate information or incorrectly estimate activity levels associated with the collaboration at a given point in time, we could be required to record adjustments in future periods.

We record our share of the net profits or net losses from the sales of LINZESS in the U.S. on a net basis and present the settlement payments to and from Allergan as collaboration expense or collaborative arrangements revenue, as applicable, as we are not the primary obligor and do not have the risks and rewards of ownership in the collaboration agreement with Allergan for North America. We and Allergan settle the cost sharing quarterly, such that our statement of operations reflects 50% of the pre-tax net profit or loss generated from sales of LINZESS in the U.S.

Up-Front License Fees

We recognize revenues from nonrefundable, up-front license fees related to arrangements entered into prior to the adoption of ASU 2009-13, including the $30.0 million up-front license fee under the Astellas license agreement entered into in November 2009, on a straight-line basis over the contracted or estimated period of performance since the license deliverables were not deemed to have value on a standalone basis under pre-ASU 2009-13 guidance and we could not determine the fair value of the undelivered elements. The period of performance over which the revenues are recognized is typically the period over which the research and/or development is expected to occur. As a result, we are required to make estimates regarding the drug development and commercialization timelines for compounds being developed pursuant to any applicable agreement. The determination of the length of the period over which to recognize the revenue is subject to judgment and estimation and can have an impact on the amount of revenue recognized in a given period. Quarterly, we reassess our period of substantial involvement over which we amortize our up-front license fees and make adjustments as appropriate. Our estimates regarding the period of performance under our collaborative research and development and licensing agreements have changed in the past and may change in the future. Any change in our estimates could result in substantial changes to our results for the period over which the revenues from an up-front license fee are recognized. In the event that an arrangement were to be terminated, we would recognize as revenue any portion of the up-front fee that had not previously been recorded as revenue, but was classified as deferred revenue at the date of such termination. At December 31, 2015, of our linaclotide collaboration and license arrangements, only a portion of Astellas' up-front license fee remained deferred. The up-front license fees under the Allergan collaboration for North America and the Allergan collaboration for Europe (previously with Almirall) were fully amortized at December 31, 2015, as the period of performance under those arrangements ended in the three months ended September 30, 2012.

We recognize revenue allocated to the license related to collaboration and license agreements entered into or materially modified, including the amounts allocated to the license under the AstraZeneca collaboration agreement entered into in October 2012, upon delivery, when we believe the license to our intellectual property has stand-alone value. When we recognize revenue allocated to the license upon delivery under any of our collaborations, we may experience significant fluctuations in our collaborative arrangements revenues from quarter to quarter and year to year depending on the timing of transactions. When we believe the license to our intellectual property does not have stand-alone value from the other deliverables to be provided in the arrangement, it is combined with other deliverables and the revenue of the combined unit of accounting is recorded based on the method appropriate for the last delivered item.

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Milestones

At the inception of each arrangement that includes pre-commercial milestone payments, we evaluate whether each pre-commercial milestone is substantive, in accordance with ASU No. 2010-17, *Revenue Recognition Milestone Method,* or ASU 2010-17. This evaluation includes an assessment of whether (a) the consideration is commensurate with either (1) the entity's performance to achieve the milestone, or (2) the enhancement of the value of the delivered item(s) as a result of a specific outcome resulting from the entity's performance to achieve the milestone, (b) the consideration relates solely to past performance and (c) the consideration is reasonable relative to all of the deliverables and payment terms within the arrangement. We evaluate factors such as the scientific, clinical, regulatory, commercial and other risks that must be overcome to achieve the respective milestone, the level of effort and investment required and whether the milestone consideration is reasonable relative to all deliverables and payment terms in the arrangement in making this assessment. At December 31, 2015, we had no pre-commercial milestones that were deemed substantive. If a substantive pre-commercial milestone were achieved and collection of the related receivable was reasonably assured, we would recognize revenue related to the milestone in its entirety in the period in which the milestone was achieved. If we were to achieve milestones that we consider substantive under any of our collaborations, we may experience significant fluctuations in our collaborative arrangements revenue from quarter to quarter and year to year depending on the timing of achieving such substantive milestones. In those circumstances where a pre-commercial milestone is not substantive, we recognize as revenue on the date the milestone is achieved an amount equal to the applicable percentage of the performance period that had elapsed as of the date the milestone was achieved, with the balance being deferred and recognized over the remaining period of performance. Pre-commercial milestone payments received prior to the adoption of ASU 2010-17 continue to be recognized over the remaining period of performance.

Commercial milestones are accounted for as royalties and are recorded as revenue upon achievement of the milestone, assuming all other revenue recognition criteria are met.

Royalties on Product Sales

We receive, or expect to receive in the future, royalty revenues under certain of our license or collaboration agreements. If we do not have any future performance obligations under these license or collaborations agreements, we record these revenues as earned. To the extent we do not have access to the royalty reports from our partners or the ability to accurately estimate the royalty revenue in the period earned, we record such royalty revenues one quarter in arrears.

Other

We produce finished drug product, API and development materials for certain of our partners.

We recognize revenue on finished drug product, API and development materials when the material has passed all quality testing required for collaborator acceptance, delivery has occurred, title and risk of loss have transferred to the collaborator, the price is fixed or determinable, and collection is reasonably assured. As it relates to development materials and API produced for Astellas, we are reimbursed at a contracted rate. Such reimbursements are considered as part of revenue generated pursuant to the Astellas license agreement and are presented as collaborative arrangements revenue. Any finished drug product, API and development materials currently produced for Allergan for the U.S. or AstraZeneca for China, Hong Kong and Macau are recognized in accordance with the cost-sharing provisions of the Allergan and AstraZeneca collaboration agreements, respectively. In October 2015, Almirall transferred its exclusive license to develop and commercialize linaclotide in Europe to Allergan, and we separately entered into an amendment to the license agreement with Allergan relating to the development and commercialization of linaclotide in Europe. Pursuant to the terms of the amendment, Allergan assumed responsibility for the manufacturing of linaclotide API for Europe from us, as well as the associated costs. We may experience fluctuations in our collaborative arrangements revenue from quarter to quarter and year to year depending on the timing of such transactions.

The agreements above are more fully described in Note 4, *Collaboration, License and Co-promotion Agreements*, in the accompanying notes to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K.

Fair Value Measurements

We have certain assets and liabilities that are measured at fair value on a recurring basis, and which have been classified as Level 1, 2 or 3 within the fair value hierarchy as described in the accounting standards for fair value measurements. In general, fair values determined by Level 1 inputs utilize observable inputs such as quoted prices in active markets for identical assets or liabilities. Fair values determined by Level 2 inputs utilize data points that are either directly or indirectly observable, such as quoted prices, interest rates and yield curves. Fair values determined by Level 3 inputs utilize unobservable data points in which there is little or no market data, which require us to develop our own assumptions for the asset or liability.

Our investment portfolio includes mainly fixed income securities that do not always trade on a daily basis. As a result, the pricing services we use apply other available information as applicable through processes such as benchmark yields, benchmarking of like securities, sector groupings and matrix pricing to prepare valuations. In addition, model processes are used to assess interest rate impact and develop prepayment scenarios. These models take into consideration relevant credit information, perceived market movements, sector news and economic events. The inputs into these models may include benchmark yields, reported trades, broker-dealer quotes, issuer spreads and other relevant data. We validate the prices provided by our third party pricing services by obtaining market values from other pricing sources and analyzing pricing data in certain instances.

We classify our derivative financial instruments as Level 3 under the fair value hierarchy. These derivatives are not actively traded and are valued using the Black-Scholes option-pricing model which requires the use of subjective assumptions, primarily the expected stock price volatility assumption.

Inventory Valuation

Inventory is stated at the lower of cost or market with cost determined under the first-in, first-out basis.

We evaluate inventory levels quarterly and any inventory that has a cost basis in excess of its expected net realizable value, inventory that becomes obsolete, inventory in excess of expected sales requirements, inventory that fails to meet commercial sale specifications or is otherwise impaired is written down with a corresponding charge to the statement of operations in the period that the impairment is first identified. We also assess, on a quarterly basis, whether we have any excess non-cancelable purchase commitments resulting from our two minimum supply agreements with our suppliers of linaclotide API outside of North America. We rely on data from several sources to estimate the net realizable value of inventory and non-cancelable purchase commitments, including partner forecasts of projected inventory purchases that are received quarterly, our internal forecasts and related process, historical sales by geographic region, and the status of and progress toward commercialization of linaclotide in partnered territories.

We capitalize inventories manufactured in preparation for initiating sales of a product candidate when the related product candidate is considered to have a high likelihood of regulatory approval and the related costs are expected to be recoverable through sales of the inventories. In determining whether or not to capitalize such inventories, we evaluate, among other factors, information regarding the product candidate's safety and efficacy, the status of regulatory submissions and communications with regulatory authorities and the outlook for commercial sales, including the existence of current or anticipated competitive drugs and the availability of reimbursement. In addition, we evaluate risks associated with manufacturing the product candidate, including the ability of our third-party suppliers to complete the validation batches, and the remaining shelf life of the inventories.

Costs associated with developmental products prior to satisfying the inventory capitalization criteria are charged to research and development expense as incurred.

There is a risk inherent in these judgments and any changes in these judgments may have a material impact on our financial results in future periods.

Research and Development Expense

All research and development expenses are expensed as incurred. We defer and capitalize nonrefundable advance payments we make for research and development activities until the related goods are received or the related services are performed.

Research and development expenses are comprised of costs incurred in performing research and development activities, including salary, benefits and other employee-related expenses; share-based compensation expense; laboratory supplies and other direct expenses; facilities expenses; overhead expenses; third-party contractual costs relating to nonclinical studies and clinical trial activities and related contract manufacturing expenses, development of manufacturing processes and regulatory registration of third-party manufacturing facilities; licensing fees for our product candidates; and other outside expenses.

Clinical trial expenses include expenses associated with contract research organizations, or CROs. The invoicing from CROs for services rendered can lag several months. We accrue the cost of services rendered in connection with CRO activities based on our estimate of site management, monitoring costs, project management costs, and investigator fees. We maintain regular communication with our CRO vendors to gauge the reasonableness of our estimates. Differences between actual clinical trial expenses and estimated clinical trial expenses recorded have not been material and are adjusted for in the period in which they become known. However, if we incorrectly estimate activity levels associated with the CRO services at a given point in time, we could be required to record material adjustments in future periods. Under our Allergan and AstraZeneca collaboration agreements for the U.S. and China, Hong Kong and Macau, respectively, we are reimbursed for certain research and development expenses and we net these reimbursements against our research and development expenses as incurred. Payments to Allergan or AstraZeneca for such territories are recorded as incremental research and development expense. Nonrefundable advance payments for research and development activities are capitalized and expensed over the related service period or as goods are received.

Share-based Compensation Expense

We make certain assumptions in order to value and record expense associated with awards made under our share-based compensation arrangements. We estimate the fair value of the stock option awards for employees and non-employees using the Black-Scholes option-pricing model. The fair value of our restricted stock unit, or RSU, awards is based on the market value of our Class A common stock on the date of grant. Determining the fair value of share-based awards requires the use of highly subjective assumptions, including expected term of the award and expected stock price volatility. For certain of these awards, we determine the appropriate amount to expense based on the anticipated achievement of performance targets, which requires judgment, including forecasting the achievement of future specified targets. Changes in these assumptions may lead to variability with respect to the amount of expense we recognize in connection with share-based payments.

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We recognize compensation expense on a straight-line basis over the requisite service period based upon stock options that are ultimately expected to vest, and accordingly, such compensation expense is adjusted by the amount of estimated forfeitures. We estimate forfeitures over the requisite service period when recognizing share-based compensation expense based on historical rates and forward-looking factors; these estimates are adjusted to the extent that actual forfeitures differ, or are expected to materially differ, from our estimates.

We have also granted time-accelerated stock options with terms that allow the acceleration in vesting of the stock options upon the achievement of performance-based milestones specified in the grants. Share-based compensation expense associated with these time-accelerated stock options is recognized over the requisite service period of the awards or the implied service period, if shorter.

While the assumptions used to calculate and account for share-based compensation awards represent management's best estimates, these estimates involve inherent uncertainties and the application of management's judgment. As a result, if revisions are made to our underlying assumptions and estimates, our share-based compensation expense could vary significantly from period to period.

Derivative Assets and Liabilities

In June 2015, in connection with the issuance of the 2022 Notes, we entered into the Convertible Note Hedges. Concurrently with entering into the Convertible Note Hedges, we also entered into certain warrant transactions in which we sold Note Hedge Warrants to the Convertible Note Hedge counterparties to acquire 20,249,665 shares of our Class A common stock, subject to customary anti-dilution adjustments. These instruments are derivative financial instruments under ASC Topic 815, *Derivatives and Hedging*.

These derivatives are recorded as assets or liabilities at fair value each reporting period and the fair value is determined using the Black-Scholes option-pricing model. The changes in fair value are recorded as a component of other (expense) income in the consolidated statements of operations. Significant inputs used to determine the fair value include the price per share of our Class A common stock on the date of valuation, time to maturity of the derivative instruments, the strike prices of the derivative instruments, the risk-free interest rate, and the volatility of our Class A common stock. Changes to these inputs could materially affect the valuation of the Convertible Note Hedges and Note Hedge Warrants in future periods.

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Results of Operations

The following discussion summarizes the key factors our management believes are necessary for an understanding of our consolidated financial statements.

	Year Ended December 31,		
	2015	2014	2013
		(in thousands)	
Collaborative arrangements revenue:	$ 149,555	$ 76,436	$ 22,881
Cost and expenses:			
Cost of revenue	12	5,291	7,203
Write-down of inventory to net realizable value and loss on non-cancellable purchase commitments	17,638	20,292	
Research and development	108,746	101,890	102,378
Selling, general and administrative	125,247	118,333	123,228
Collaboration expense			42,074
Total cost and expenses	251,643	245,806	274,883
Loss from operations	(102,088)	(169,370)	(252,002)
Other (expense) income:			
Interest expense	(31,096)	(21,166)	(21,002)
Interest and investment income	443	257	192
Loss on derivatives	(9,928)		
Other income		661	
Other expense, net	(40,581)	(20,248)	(20,810)
Net loss	$ (142,669)	$ (189,618)	$ (272,812)

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

Revenue

	Year Ended December 31,		Change	
	2015	2014	$	%
	(dollars in thousands)			
Collaborative arrangements revenue	$ 149,555	$ 76,436	$ 73,119	96%

Collaborative Arrangements Revenue. The increase in revenue from collaborative arrangements of approximately $73.1 million for the year ended December 31, 2015 compared to the year ended December 31, 2014 was primarily related to an approximately $85.8 million increase in our share of the net profits from the sale of LINZESS in the U.S.; an approximately $4.4 million increase due to revenues from our co-promotion agreement with Exact Sciences for Cologuard in the U.S. entered into in March 2015; an approximately $0.8 million increase in royalty revenue based on sales of linaclotide in our partnered territories; and an approximately $0.2 million increase due to revenues from our co-promotion agreement with Allergan for VIBERZI in the U.S. entered into in August 2015. The increases were partially offset by an approximately $8.1 million decrease in revenue recognized in connection with the achievement of a development milestone under our Astellas license agreement in 2014; an approximately $7.0 million decrease in revenue from the shipments of linaclotide API to our licensing partners; an approximately $1.9 million decrease in revenue recognized related to the achievement of commercial launch milestones under our license agreement with Almirall in 2014; and

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an approximately $1.1 million decrease in revenue related to our collaboration agreement with AstraZeneca.

Cost and Expenses

	Year Ended December 31, 2015	Year Ended December 31, 2014	Change $	Change %
	(dollars in thousands)			
Cost and expenses:				
Cost of revenue	$ 12	$ 5,291	$ (5,279)	(100)%
Write-down of inventory to net realizable value and loss on non-cancellable purchase commitments	17,638	20,292	(2,654)	(13)%
Research and development	108,746	101,890	6,856	7%
Selling, general and administrative	125,247	118,333	6,914	6%
Total cost and expenses	$ 251,643	$ 245,806	$ 5,837	2%

Cost of Revenue. The decrease in cost of revenue of approximately $5.3 million for the year ended December 31, 2015 compared to the year ended December 31, 2014 was primarily attributable to lower sales of linaclotide API to our licensing partners.

Write-down of inventory to net realizable value and loss on non-cancelable purchase commitments. The decrease in write-down of inventory and loss on non-cancelable purchase commitments of approximately $2.7 million for the year ended December 31, 2015 compared to the year ended December 31, 2014 was primarily related to an accrual for a loss on non-cancelable inventory purchase commitments recorded in the year ended December 31, 2015, partially offset by a decrease in the amount of inventory written down to estimated net realizable value.

Inventory represents linaclotide API that is available for commercial sale. We evaluate inventory levels quarterly and any inventory that has a cost basis in excess of its expected net realizable value, inventory that becomes obsolete, inventory in excess of expected sales requirements, inventory that fails to meet commercial sale specifications or is otherwise impaired is written down with a corresponding charge to the statement of operations in the period that the impairment is first identified. As part of our net realizable value assessment of our inventory, we assess whether we have any excess non-cancelable purchase commitments resulting from our two minimum supply agreements with our suppliers of linaclotide API outside of North America.

We have entered into multiple commercial supply agreements for the purchase of linaclotide API. Two of our API supply agreements for supplying API to our collaboration partners outside of North America contain minimum purchase commitments. Prior to October 2015, we were also responsible for the manufacturing of linaclotide API for Europe. As part of our net realizable value assessment of our inventory, we assess whether we have any excess non-cancelable purchase commitments resulting from our minimum supply agreements with our suppliers of linaclotide API.

The determination of the net realizable value of inventory and non-cancelable purchase commitments is based on demand forecasts from our partners that are received quarterly, to project the next 24 months of demand and our internal forecast for projected demand in subsequent years. During the three months ended June 30, 2015, Almirall, our former European partner, reduced its forecasted purchases of linaclotide API for its territory for the subsequent 18 months. In addition, recent regulatory changes made by the CFDA to the marketing approval process in China resulted in a potentially lengthened approval timeline for the commercialization of linaclotide. The reduced demand from Almirall, and the potential extended timeline for commercialization of linaclotide in China, resulted in lower projected sales of linaclotide API to our partners in Europe and China. As a result, during the three months ended June 30, 2015, we wrote-down the balance of our inventory of approximately $5.0 million to zero and accrued approximately $3.2 million for excess non-cancelable inventory purchase commitments.

In October 2015, Almirall transferred its exclusive license to develop and commercialize linaclotide in Europe to Allergan, and we separately entered into an amendment to the license agreement with Allergan relating to the development and commercialization of linaclotide in Europe. Pursuant to the terms of the amendment, Allergan assumed responsibility for the manufacturing of linaclotide API for Europe, as well as the associated costs. Upon the execution of the amendment to the license agreement, we recorded an incremental loss on non-cancelable API purchase commitments of approximately $6.9 million related to one of our API supply agreements covering the commercial supply of linaclotide API for the European market. During the three months ended September 30, 2015, we also recorded an incremental loss on non-cancelable API purchase commitments related to in-process API batches. We have evaluated all remaining minimum purchase commitments under our linaclotide API supply agreements through 2023 and concluded that the approximately $22.3 million of purchase commitments from the second API supply agreement covering the Japan, China, Hong Kong and Macau markets are realizable based on the current forecasts received from our partners in these territories and our internal forecasts. These charges are more fully described in Note 7, *Inventory*, to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K.

During the year ended December 31, 2014, we wrote down approximately $20.3 million in inventory to an estimated net realizable value of approximately $5.0 million. This write down was primarily attributable to Almirall's reduced inventory demand forecasts, mainly due to the suspension of commercialization of CONSTELLA in Germany and a challenging commercial environment throughout Europe.

Research and Development Expense. The increase in research and development expense of approximately $6.9 million for the year ended December 31, 2015 compared to the year ended December 31, 2014 was primarily related to an increase of approximately $19.7 million in external costs related to the development of linaclotide; an increase of approximately $4.2 million in compensation, benefits and other employee-related expenses primarily associated with increased headcount; and an increase of approximately $3.2 million in research costs related to our early stage pipeline candidates. The increases were partially offset by a decrease of approximately $12.6 million in costs related to the collaboration with Allergan for North America; a decrease of approximately $3.0 million related to our January 2014 workforce reduction; a decrease of approximately $1.8 million in operating costs, including information technology infrastructure costs and facility costs such as rent and amortization of leasehold improvements allocated to research and development; an approximately $1.6 million decrease in costs associated with the collaboration with AstraZeneca; and a decrease of approximately $1.2 million related to the development of manufacturing processes and costs associated with linaclotide API prior to meeting our inventory capitalization policy.

Selling, General and Administrative Expense. Selling, general and administrative expenses increased approximately $6.9 million for the year ended December 31, 2015 compared to the year ended December 31, 2014 primarily as a result of an approximately $2.9 million increase in costs associated with selling expenses and marketing programs; an approximately $2.7 million increase in external consulting costs, patent-related legal costs and other service costs primarily associated with commercial activities to support linaclotide; an approximately $2.1 million increase in compensation, benefits and other employee-related expenses; and an approximately $0.4 million increase in selling, general and administrative expenses related to facilities and information technology infrastructure costs, including rent and amortization of leasehold improvements. These increases were partially offset by a decrease in costs of approximately $1.2 million related to our January 2014 workforce reduction.

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Other (Expense) Income, Net

	Year Ended December 31,		Change	
	2015	2014	$	%
	(dollars in thousands)			
Other (expense) income:				
Interest expense	$ (31,096)	$ (21,166)	$ (9,930)	47%
Interest and investment income	443	257	186	72%
Loss on derivatives	(9,928)		(9,928)	100%
Other income		661	(661)	(100)%
Total other (expense) income, net	$ (40,581)	$ (20,248)	$ (20,333)	100%

Interest Expense. Interest expense increased approximately $9.9 million for the year ended December 31, 2015 compared to the year ended December 31, 2014, mainly due to an increase in interest expense of approximately $10.9 million associated with our 2022 Notes. This increase was partially offset by a decrease of approximately $0.9 million in interest expense associated with the PhaRMA Notes for the year ended December 31, 2015, and an insignificant amount due to interest associated with capital leases for the automobiles for our field-based sales force and medical science liaisons.

Loss on derivatives. The approximately $9.9 million increase in the net loss on derivatives for the year ended December 31, 2015, compared to the year ended December 31, 2014 is due to an approximately $5.4 million decrease in the fair value of the Convertible Note Hedges and an approximately $4.5 million increase in the fair value of the Note Hedge Warrants since their issuance in June 2015.

Other Income. The decrease in other income of approximately $0.7 million for the year ended December 31, 2015 compared to the year ended December 31, 2014 is primarily related to timing of the recognition of tax incentive awards that were recognized in the year ended December 31, 2014. In the year ended December 31, 2012, we were awarded an approximately $1.7 million tax incentive, associated with the Life Sciences Tax Incentive Program from the Massachusetts Life Sciences Center. During the year ended December 31, 2014, we recognized approximately $0.7 million as other income in the consolidated statement of operations, as we believed we had satisfied our job creation commitments related to this award for 2012 and 2013.

Year Ended December 31, 2014 Compared to Year Ended December 31, 2013

Revenue

	Year Ended December 31,		Change	
	2014	2013	$	%
	(dollars in thousands)			
Collaborative arrangements revenue	$ 76,436	$ 22,881	$ 53,555	234%

Collaborative Arrangements Revenue. The increase in revenue from collaborative arrangements of approximately $53.6 million for the year ended December 31, 2014 compared to the year ended December 31, 2013 was primarily related to an approximately $44.7 million increase in our share of the net profits from the sale of LINZESS in the U.S.; an approximately $10.2 million increase in revenue recognized in connection with the achievement of a development milestone under our Astellas license agreement in the fourth quarter of 2014; an approximately $2.6 million increase in license revenue related to our collaboration agreement with AstraZeneca recognized in connection with a modification

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to the initial development plan and development budget in August 2014, which was deemed to be a material modification; an approximately $0.5 million increase in royalty revenue based on sales of CONSTELLA in the European territory; and an approximately $0.4 million increase in the amortization of deferred revenue associated with the Astellas license agreement due to a change in estimate in the development period in March 2013. The increases were partially offset by an approximately $4.7 million decrease in revenue from the shipments of linaclotide API to our licensing partners.

Cost and Expenses

	Year Ended December 31, 2014	Year Ended December 31, 2013	Change $	Change %
	(dollars in thousands)			
Cost and expenses:				
Cost of revenue	$ 5,291	$ 7,203	$ (1,912)	(27)%
Write-down of inventory to net realizable value and loss on non-cancellable purchase commitments	20,292		20,292	100%
Research and development	101,890	102,378	(488)	(0)%
Selling, general and administrative	118,333	123,228	(4,895)	(4)%
Collaboration expense		42,074	(42,074)	(100)%
Total cost and expenses	$ 245,806	$ 274,883	$ (29,077)	(11)%

Cost of Revenue. The decrease in cost of revenue of approximately $1.9 million for the year ended December 31, 2014 compared to the year ended December 31, 2013 was primarily attributable to lower sales of linaclotide API to our licensing partners.

Write-down of inventory to net realizable value and loss on non-cancelable purchase commitments. The increase in write-down of inventory and loss on non-cancelable purchase commitments of approximately $20.3 million for the year ended December 31, 2014 compared to the year ended December 31, 2013 was related to a write-down of approximately $20.3 million in inventory to an estimated net realizable value of approximately $5.0 million. This write-down was primarily attributable to Almirall's reduced inventory demand forecasts for the European territory, mainly due to the suspension of commercialization of CONSTELLA in Germany and a challenging commercial environment throughout Europe.

Research and Development Expense. The decrease in research and development expense of approximately $0.5 million for the year ended December 31, 2014 compared to the year ended December 31, 2013 was primarily related to a decrease of approximately $5.5 million in compensation, benefits and other employee-related expenses primarily associated with decreased average headcount; a decrease of approximately $5.0 million related to the development of manufacturing processes and costs associated with linaclotide API prior to meeting our inventory capitalization policy; a decrease of approximately $3.6 million in costs related to the collaboration with Allergan for North America; and a decrease of approximately $1.0 million in research costs related to our early stage pipeline candidates. The decreases were partially offset by an increase of approximately $8.0 million in external costs related to the development of linaclotide; an increase of approximately $3.2 million in operating costs, including information technology infrastructure costs and facility costs such as rent and amortization of leasehold improvements allocated to research and development; an increase in costs of approximately $3.0 million related to our January 2014 workforce reduction; and an increase of approximately $0.4 million in costs related to the collaboration with AstraZeneca.

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Selling, General and Administrative Expense. Selling, general and administrative expenses decreased approximately $4.9 million for the year ended December 31, 2014 compared to the year ended December 31, 2013 primarily as a result of an approximately $6.5 million decrease in external consulting and other service costs primarily associated with developing and maintaining the infrastructure to support linaclotide; an approximately $3.6 million decrease in costs associated with selling expenses and marketing programs; an approximately $1.5 million decrease in compensation, benefits and other employee-related expenses associated with decreased average headcount; and an approximately $0.4 million decrease in selling, general and administrative expenses related to facilities and information technology infrastructure costs associated with operating our Cambridge, Massachusetts facility, including rent and amortization of leasehold improvements. The decreases were partially offset by an approximately $5.9 million increase in share-based compensation costs, of which approximately $2.3 million is related to the departure of an executive officer, and an increase in costs of approximately $1.2 million related to our January 2014 workforce reduction.

Collaboration Expense. Collaboration expense decreased approximately $42.1 million for the year ended December 31, 2014 compared to the year ended December 31, 2013, primarily as a result of our share of higher LINZESS net sales in the U.S., which generated a payment from Allergan to us rather than a payment to Allergan.

Other (Expense) Income, Net

	Year Ended December 31,		Change	
	2014	2013	$	%
	(dollars in thousands)			
Other (expense) income:				
Interest expense	$ (21,166)	$ (21,002)	$ (164)	1%
Interest and investment income	257	192	65	34%
Other income	661		661	100%
Total other (expense) income, net	$ (20,248)	$ (20,810)	$ 562	(3)%

Interest Expense. Interest expense increased approximately $0.2 million for the year ended December 31, 2014 compared to the year ended December 31, 2013, mainly due to interest associated with capital leases for the automobiles for our field-based sales force and medical science liaisons.

Other Income. The increase in other income of approximately $0.7 million for the year ended December 31, 2014 compared to the year ended December 31, 2013 was primarily related to timing of the recognition of tax incentive awards that were previously received. In the year ended December 31, 2012, we were awarded an approximately $1.7 million tax incentive, associated with the Life Sciences Tax Incentive Program from the Massachusetts Life Sciences Center. During the year ended December 31, 2014, we recognized approximately $0.7 million as other income in the consolidated statement of operations, as we believed we had satisfied our job creation commitments related to this award for 2012 and 2013.

Liquidity and Capital Resources

We have incurred losses since our inception in 1998 and, as of December 31, 2015, we had an accumulated deficit of approximately $1.1 billion. We have financed our operations to date primarily through both the private sale of our preferred stock and the public sale of our common stock, including approximately $203.2 million of net proceeds from our initial public offering, or IPO, in February 2010, and approximately $413.4 million of net proceeds from our follow-on public offerings; payments received under our strategic collaborative arrangements, including upfront and milestone payments, royalties and our share of net profits, as well as reimbursement of certain expenses; and debt financings, including approximately $167.3 million of net proceeds from the private placement of our PhaRMA Notes in January 2013 and approximately $324.0 million of net proceeds from the private placement of our 2022 Notes in June 2015. At December 31, 2015, we had approximately $439.4 million of unrestricted cash, cash equivalents and available-for-sale securities. Our cash equivalents include amounts held in money market funds and U.S. government-sponsored securities. Our available-for-sale securities include amounts held in U.S. Treasury securities and U.S. government-sponsored securities. We invest cash in excess of immediate requirements in accordance with our investment policy, which limits the amounts we may invest in any one type of investment and requires all investments held by us to be at least A+ rated, with a remaining maturity when purchased of less than twelve months, so as to primarily achieve liquidity and capital preservation.

During the year ended December 31, 2015, our balances of cash, cash equivalents and available-for-sale securities increased approximately $191.1 million. This increase is primarily due to approximately $335.7 million in gross proceeds from the issuance of our 2022 Notes in June 2015, approximately $70.8 million in gross proceeds from the issuance of Note Hedge Warrants issued in connection with the 2022 Notes, and approximately $14.2 million in proceeds from the exercise of stock options and the issuance of shares pursuant to our employee stock purchase plan. These cash inflows were partially offset by the purchase of Convertible Note Hedges for approximately $91.9 million in connection with our 2022 Notes and the payment of approximately $11.7 million of issuance costs in connection with our 2022 Notes, as well as the cash used to operate our business, including payments related to, among other things, research and development and selling, general and administrative expenses as we continued to invest in our research pipeline and support the continued commercialization of LINZESS in the U.S. We also made principal payments of approximately $12.7 million on our outstanding PhaRMA Notes, invested approximately $4.0 million in capital expenditures, and made payments of approximately $1.3 million on capital lease obligations.

Cash Flows From Operating Activities

Net cash used in operating activities totaled approximately $106.9 million for the year ended December 31, 2015. The primary uses of cash were our net loss of approximately $142.7 million and changes in assets and liabilities of approximately $38.2 million resulting primarily from an increase in related party accounts receivable principally attributable to higher amounts due from Allergan as a result of increased profits on the sale of LINZESS in the U.S., an increase in restricted cash associated with our salesforce vehicle fleet, a decrease in accounts payable, related party accounts payable and accrued expenses, a decrease in prepaid expenses and other assets, a decrease in deferred revenue, a decrease in deferred rent and an increase in accrued research and development costs. These uses of cash were primarily offset by non-cash items of approximately $74.0 million, including approximately $25.5 million in share-based compensation expense, approximately $17.6 million due to the write-down of inventory to net realizable value and loss on non-cancelable purchase commitments, approximately $11.6 million in depreciation and amortization expense of property and equipment, approximately $8.1 million in non-cash interest expense, approximately $9.9 million due to the change in fair value of the Convertible Note Hedges and Note Hedge Warrants, and approximately $1.1 million in accretion of discounts and premiums on available-for-sale securities.

Net cash used in operating activities totaled approximately $155.6 million for the year ended December 31, 2014. The primary uses of cash were our net loss of approximately $189.6 million and changes in assets and liabilities of approximately $30.1 million resulting primarily from an increase in related party accounts receivable principally due to higher amounts due from Allergan due to increased profits on the sale of LINZESS in the U.S., an increase in purchases of linaclotide API, an increase in prepaid expenses and other assets, and an increase in deferred rent. These uses of cash were partially offset by non-cash items of approximately $64.2 million, including approximately $26.2 million in share-

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based compensation expense, approximately $20.3 million due to the write-down of inventory to net realizable value, approximately $12.3 million in depreciation and amortization expense of property and equipment, approximately $2.6 million in losses on facility subleases, approximately $1.6 million in non-cash interest expense and approximately $1.1 million in accretion of discounts and premiums on available-for-sale securities.

Net cash used in operating activities totaled approximately $273.4 million for the year ended December 31, 2013. The primary uses of cash were our net loss of approximately $272.8 million and changes in assets and liabilities of approximately $35.7 million resulting primarily from a decrease in accounts payable and accrued expenses, including accrued research and development costs due to timing of payments, an increase in inventory for linaclotide API, a decrease in deferred revenue associated with the Astellas license agreement, a decrease in deferred rent and an increase accounts receivable. These uses of cash were partially offset by non-cash items of approximately $35.1 million, including approximately $19.8 million in share-based compensation expense, approximately $11.7 million in depreciation and amortization expense of property and equipment, approximately $1.7 million in non-cash interest expense, approximately $1.3 million in accretion of discounts and premiums on available-for-sale securities and approximately $0.6 million in losses on the disposal of property and equipment.

Cash Flows From Investing Activities

Cash used in investing activities for the year ended December 31, 2015 totaled approximately $9.2 million and resulted primarily from the purchase of approximately $282.0 million of available-for-sale securities and the purchase of approximately $4.0 million of property and equipment, primarily leasehold improvements and laboratory equipment. This was partially offset by the sales and maturities of approximately $276.7 million of available-for-sale securities and an insignificant amount of proceeds from the sale of property and equipment.

Cash used in investing activities for the year ended December 31, 2014 totaled approximately $56.6 million and resulted primarily from the purchase of approximately $254.0 million of available-for-sale securities and the purchase of approximately $3.5 million of property and equipment, primarily manufacturing and laboratory equipment as well as software to improve our information technology infrastructure. This was partially offset by the maturity of approximately $200.9 million in available-for-sale securities.

Cash used in investing activities for the year ended December 31, 2013 totaled approximately $101.4 million and resulted primarily from the purchase of approximately $287.9 million of available-for-sale securities and the purchase of $9.6 million of property and equipment, primarily manufacturing and laboratory equipment as well as software to improve our information technology infrastructure. This was partially offset by the maturity of approximately $196.1 million in available-for-sale securities.

Cash Flows From Financing Activities

Cash provided by financing activities for the year ended December 31, 2015 totaled approximately $303.1 million and resulted primarily from approximately $324.0 million in net proceeds from the issuance of our 2022 Notes in June 2015, approximately $70.8 million in gross proceeds from the issuance of the Note Hedge Warrants in connection with the 2022 Notes, approximately $14.2 million in cash provided by stock option exercises and the issuance of shares under our employee stock purchase plan, partially offset by approximately $91.9 million related to the purchase of the Convertible Note Hedges in connection with our 2022 Notes, approximately $12.7 million in cash used for principal payments on our outstanding PhaRMA Notes, and approximately $1.3 million in cash used for payments on our capital leases.

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Cash provided by financing activities for the year ended December 31, 2014 totaled approximately $210.9 million and resulted primarily from approximately $190.4 million in net proceeds from our follow-on public stock offering in the first quarter of 2014 and approximately $22.7 million in cash provided by stock option exercises and the issuance of shares under our employee stock purchase plan, partially offset by approximately $1.2 million in cash used for principal payments on debt and approximately $1.0 million in cash used for payments on our capital leases.

Cash provided by financing activities for the year ended December 31, 2013 totaled approximately $313.6 million and resulted primarily from approximately $167.3 million in net proceeds from our debt financing in January 2013, approximately $137.8 million in net proceeds from our follow-on public stock offering in the second quarter of 2013 and approximately $9.3 million in cash provided by stock option exercises and the issuance of shares under our employee stock purchase plan, partially offset by approximately $0.8 million in cash used for payments on our capital leases.

Funding Requirements

We began commercializing LINZESS in the U.S. with our collaboration partner, Allergan, in the fourth quarter of 2012, and we currently derive substantially all of our revenue from this collaboration. We are also deploying significant resources to advance product opportunities in GI and vascular/fibrotic diseases. Our goal is to become cash flow positive driven by increased revenue generated through sales of LINZESS and financial discipline. However, we have not achieved positive cash flows from operations to date.

Under our collaboration with Allergan for North America, total net sales of LINZESS in the U.S., as recorded by Allergan, are reduced by commercial costs incurred by each party, and the resulting amount is shared equally between us and Allergan. Additionally, we receive royalties based on sales of linaclotide in the European territory, Canada, and Mexico from Allergan. We believe revenues from our LINZESS partnership for the U.S. with Allergan will continue to constitute a significant portion of our total revenue for the foreseeable future and we cannot be certain that such revenues, as well as the revenues from our other commercial activities, will enable us to become cash flow positive, or to do so on the timeframes we expect. We also anticipate that we will continue to incur substantial expenses for the next several years as we further develop and commercialize linaclotide in the U.S., China and other markets, and continue to invest in our pipeline and potentially other external opportunities. We believe that our cash on hand as of December 31, 2015 will be sufficient to meet our projected operating needs at least through the next twelve months.

Our forecast of the period of time through which our financial resources will be adequate to support our operations, including the underlying estimates regarding the costs to develop our product candidates and obtain regulatory approvals and the costs to commercialize linaclotide in the U.S., China and other markets, as well as our goal to become cash flow positive, are forward-looking statements that involve risks and uncertainties. Our actual results could vary materially and negatively from these and other forward-looking statements as a result of a number of factors, including the factors discussed in the "Risk Factors" section of this Annual Report on Form 10-K. We have based our estimates on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we currently expect.

Due to the numerous risks and uncertainties associated with the development and commercialization of our product candidates, we are unable to estimate precisely the amounts of capital outlays and operating expenditures necessary to complete the development of, and to obtain regulatory approval for, linaclotide (other than in the countries where it is already approved) and our other product candidates, or to commercialize linaclotide and our other product candidates, in each case, for all of the markets, indications, populations and formulations for which we believe each

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product candidate is suited. Our funding requirements will depend on many factors, including, but not limited to, the following:

- the revenue generated by sales of LINZESS, CONSTELLA and any other products;
- the rate of progress and cost of our commercialization activities, including the expense we incur in marketing and selling LINZESS and any other products;
- the success of our third-party manufacturing activities;
- the time and costs involved in developing, and obtaining regulatory approvals for, our product candidates;
- the success of our research and development efforts;
- the emergence of competing or complementary developments;
- the costs of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights;
- the terms and timing of any additional collaborative, licensing or other arrangements that we may establish; and
- the acquisition of businesses, products and technologies and the impact of other strategic transactions.

Financing Strategy

We may, from time to time, consider additional funding through a combination of new collaborative arrangements, strategic alliances, and additional equity and debt financings or from other sources. We will continue to manage our capital structure and to consider all financing opportunities, whenever they may occur, that could strengthen our long-term liquidity profile. Any such capital transactions may or may not be similar to transactions in which we have engaged in the past. There can be no assurance that any such financing opportunities will also be available on acceptable terms, if at all.

Contractual Commitments and Obligations

Lease and Commercial Supply Obligations

The following table summarizes our lease and commercial supply obligations at December 31, 2015 (excluding interest):

	Payments Due by Period				
	Total	Less Than 1 Year	1 - 3 Years	3 - 5 Years	More Than 5 Years
			(in thousands)		
Commercial supply obligations[1]	$ 32,440	$ 2,259	$ 9,641	$ 11,252	$ 9,288
Capital lease obligations[2]	3,094	2,756	338		
Operating lease obligations[3]	32,422	15,617	16,805		
Convertible senior notes due 2022 (including interest)[4]	384,795	7,553	15,106	15,106	347,030
Total contractual obligations	$ 452,751	$ 28,185	$ 41,890	$ 26,358	$ 356,318

(1) We have multiple commercial supply agreements with contract manufacturing organizations for the purchase of linaclotide finished drug product and API. Two of our API supply agreements for supplying API to our collaboration partners outside of North America contain minimum purchase

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commitments, which are reflected in the table above. During the year ended December 31, 2015, we recognized approximately $10.1 million of the commitments included in the table above, as an accrual for excess purchase commitments that is recorded in other liabilities in our consolidated balance sheet. In addition, we and Allergan are jointly obligated to make minimum purchases of linaclotide API for the territories covered by our collaboration with Allergan for North America. Currently, Allergan fulfills all such minimum purchase commitments and, as a result, they are excluded from the table above.

(2)
Our commitment for capital lease obligations principally relates to leased automobiles for our field-based sales force and medical science liaisons, and computer and office equipment.

(3)
Our commitments for operating leases relate to our lease of office and laboratory space in Cambridge, Massachusetts and our data storage space in Boston, Massachusetts. In the third quarter of 2014, we entered into two arrangements, with the landlord's consent, to sublease a portion of our Cambridge, Massachusetts corporate headquarters. The future minimum lease payments included in this table do not reflect the $0.8 million of sublease rental income that we are entitled to receive through 2016 under the first sublease or the $11.1 million of sublease rental income that we are entitled to receive through 2018 under the second sublease.

(4)
Convertible senior notes includes approximately $335.7 million of our 2022 Notes which can potentially be settled in our common stock under the terms of the associated indenture.

Notes Payable

In January 2013, we closed a private placement of $175.0 million in aggregate principal amount of 11% PhaRMA Notes due 2024. The notes bear an annual interest rate of 11%, with interest payable March 15, June 15, September 15 and December 15 of each year, each a Payment Date, which began on June 15, 2013. On March 15, 2014, we began making quarterly payments on the notes equal to the greater of (i) 7.5% of net sales of LINZESS in the U.S. for the preceding quarter, or the Synthetic Royalty Amount, and (ii) accrued and unpaid interest on the notes, or the Required Interest Amount. Principal on the notes will be repaid in an amount equal to the Synthetic Royalty Amount minus the Required Interest Amount, when this is a positive number, until the principal has been paid in full. Given the principal payments on the notes are based on the net sales of LINZESS in the U.S., which will vary from quarter to quarter, the notes may be repaid prior to June 15, 2024, the final legal maturity date. We made principal payments of $13.9 million through December 31, 2015. Since we are unable to reliably estimate the exact timing and amounts of the principal payments, as discussed under "Risk Factors" in Item 1A of this Annual Report on Form 10-K, the notes-related commitments are not included in the table above.

In June 2015, we issued approximately $335.7 million of 2.25% Convertible Senior Notes due June 15, 2022. The 2022 Notes are governed by an indenture between us and U.S. Bank National Association, as the trustee, or the Indenture. The 2022 Notes are senior unsecured obligations and bear interest at a rate of 2.25% per year, payable on June 15 and December 15 of each year, which began on December 15, 2015. The 2022 Notes will mature on June 15, 2022, unless earlier converted or repurchased. The initial conversion rate for the 2022 Notes is 60.3209 shares of Class A common stock (subject to adjustment as provided for in the Indenture) per $1,000 principal amount of the 2022 Notes, which is equal to an initial conversion price of approximately $16.58 per share. In addition, to minimize the impact of potential dilution to our common stock upon conversion of the 2022 Notes, we entered into the Convertible Note Hedges covering 20,249,665 shares of our Class A common stock in connection with the 2022 Notes. Concurrently with entering into the Convertible Note Hedges, we sold Note Hedge Warrants to acquire 20,249,665 shares of our Class A common stock at an initial strike price of approximately $21.50 per share, subject to customary anti-dilution adjustments. The 2022 Notes, Convertible Note Hedges and Note Hedge Warrants are more fully described in Note 10, *Notes*

Payable, in the accompanying notes to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K for additional information.

Commitments Related to Our Collaboration and License Agreements

Under our collaborative agreements with Allergan for North America and AstraZeneca for China, Hong Kong and Macau, we share with Allergan and AstraZeneca all development and commercialization costs related to linaclotide in the U.S. and for China, Hong Kong and Macau, respectively. The actual amounts that we pay our partners or that partners pay to us will depend on numerous factors outside of our control, including the success of our clinical development efforts with respect to linaclotide, the content and timing of decisions made by the regulators, the reimbursement and competitive landscape around linaclotide and our other product candidates, and other factors described under "Risk Factors" in Item 1A of this Annual Report on Form 10-K.

In addition, we have commitments to make potential future milestone payments under one of our license and collaboration arrangements totaling $23.0 million, which includes $5.0 million for development milestones and $18.0 million for regulatory milestones. We are also committed to make potential future milestone payments of up to $114.5 million per product to one of our collaboration partners, including $21.5 million for development milestones, $58.0 million for regulatory milestones and $35.0 million for sales-based milestones. These milestones primarily include the commencement and results of clinical trials, obtaining regulatory approval in various jurisdictions and the future commercial success of development programs, the outcome and timing of which are difficult to predict and subject to significant uncertainty. In addition to the milestones discussed above, we are obligated to pay royalties on future sales, which are contingent on generating levels of sales of future products that have not been achieved and may never be achieved. Since we are unable to reliably estimate the timing and amounts of such milestone and royalty payments, or whether they will occur at all, these contingent payments have been excluded from the table above. Our license and collaboration agreements are more fully described in Note 4, *Collaboration, License and Co-promotion Agreements*, in the accompanying notes to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K.

Tax-related Obligations

We exclude liabilities or obligations pertaining to uncertain tax positions from our summary of contractual commitments and obligations as we cannot make a reliable estimate of the period of cash settlement with the respective taxing authorities. As of December 31, 2015, we have approximately $17.6 million of uncertain tax positions, and we cannot reasonably estimate the potential adjustment to our net operating loss carryforward. These uncertain tax positions are more fully described in Note 14, *Income Taxes*, in the accompanying notes to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K for additional information.

Other Funding Commitments

As of December 31, 2015, we have several on-going studies in various clinical trial stages. Our most significant clinical trial expenditures are to CROs. The contracts with CROs generally are cancellable, with notice, at our option and do not have any significant cancellation penalties. These items are not included in the table above.

Off-Balance Sheet Arrangements

We do not have any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, that would have been established for the purpose of facilitating off-balance sheet arrangements (as that term is defined in

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Item 303(a)(4)(ii) of Regulation S-K) or other contractually narrow or limited purposes. As such, we are not exposed to any financing, liquidity, market or credit risk that could arise if we had engaged in those types of relationships. We enter into guarantees in the ordinary course of business related to the guarantee of our own performance and the performance of our subsidiaries.

New Accounting Pronouncements

For a discussion of new accounting pronouncements refer to Note 2, *Summary of Significant Accounting Policies*, to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K.

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

Interest Rate Risk

We are exposed to market risk related to changes in interest rates. We invest our cash in a variety of financial instruments, principally securities issued by the U.S. government and its agencies and money market instruments. The goals of our investment policy are preservation of capital, fulfillment of liquidity needs and fiduciary control of cash and investments. We also seek to maximize income from our investments without assuming significant risk.

Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of interest rates, particularly because our investments are in short-term marketable securities. Due to the short-term duration of our investment portfolio and the low risk profile of our investments, an immediate 1% change in interest rates would not have a material effect on the fair market value of our portfolio. Accordingly, we would not expect our operating results or cash flows to be affected to any significant degree by the effect of a sudden change in market interest rates on our investment portfolio.

We do not believe our cash, cash equivalents and available-for-sale securities have significant risk of default or illiquidity. While we believe our cash, cash equivalents and available-for-sale securities do not contain excessive risk, we cannot provide absolute assurance that in the future our investments will not be subject to adverse changes in market value. In addition, we maintain significant amounts of cash, cash equivalents and available-for-sale securities at one or more financial institutions that are in excess of federally insured limits. Given the potential instability of financial institutions, we cannot provide assurance that we will not experience losses on these deposits.

Our capital lease obligations, PhaRMA Notes and 2022 Notes bear interest at a fixed rate and therefore have minimal exposure to changes in interest rates; however, because these interest rates are fixed, we may be paying a higher interest rate, relative to market, in the future if our credit rating improves or other circumstances change.

Equity Price Risk

2022 Notes

Our 2022 Notes include conversion and settlement provisions that are based on the price of our Class A common stock at conversion or at maturity of the 2022 Notes. The amount of cash we may be required to pay is determined by the price of our Class A common stock. The fair value of our 2022 Notes is dependent on the price and volatility of our Class A common stock and will generally increase or decrease as the market price of our Class A common stock changes.

The 2022 Notes are convertible into Class A common stock at an initial conversion rate of 60.3209 shares of Class A common stock (subject to adjustment as provided for in the Indenture) per $1,000 principal amount of the 2022 Notes, which is equal to an initial conversion price of approximately

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$16.58 per share. The 2022 Notes will mature on June 15, 2022 unless earlier converted or repurchased. The 2022 Notes bear cash interest at an annual rate of 2.25%, payable on June 15 and December 15 of each year, which began on December 15, 2015. As of December 31, 2015, the fair value of the 2022 Notes was estimated by us to be $311.6 million. The 2022 Notes are more fully described in Note 5, *Fair Value of Financial Instruments*, and Note 10, *Notes Payable*, in the accompanying notes to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K for additional information.

Convertible Note Hedge and Warrant Transactions with Respect to 2022 Notes

To minimize the impact of potential dilution to our common stock upon conversion of the 2022 Notes, we entered into Convertible Note Hedges. Concurrently with entering into the Convertible Note Hedges, we entered into warrant transactions whereby we sold Note Hedge Warrants to acquire, subject to customary adjustments, 20,249,665 shares of our Class A common stock at an initial strike price of approximately $21.50 per share, subject to adjustment. The Convertible Note Hedges and Note Hedge Warrants are more fully described in Note 10, *Notes Payable*, in the accompanying notes to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K for additional information.

Foreign Currency Risk

We have no significant operations outside the U.S. and we do not expect to be impacted significantly by foreign currency fluctuations.

Effects of Inflation

We do not believe that inflation and changing prices over the years ended December 31, 2015, 2014 and 2013 had a significant impact on our results of operations.

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

Our consolidated financial statements, together with the independent registered public accounting firm report thereon, appear at pages F-1 through F-66, of this Annual Report on Form 10-K.

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

None.

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Item 9A. *Controls and Procedures*

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a-15(b) of the Exchange Act, our management, including our principal executive officer and our principal financial officer, conducted an evaluation as of the end of the period covered by this Annual Report on Form 10-K of the effectiveness of the design and operation of our disclosure controls and procedures. Based on that evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures are effective at the reasonable assurance level in ensuring that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports we file under the Exchange Act is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over our financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act as the process designed by, or under the supervision of, our Chief Executive Officer and Chief Financial Officer, and effected by our board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of our financial statements for external purposes in accordance with generally accepted accounting principles, and includes those policies and procedures that:

(1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of assets;

(2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures are being made only in accordance with the authorizations of management and directors; and

(3) provide reasonable assurance regarding the prevention or timely detection of unauthorized acquisition, use or disposition of assets that could have a material effect on our financial statements.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework provided in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on this evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2015.

The effectiveness of our internal control over financial reporting as of December 31, 2015 has been audited by Ernst and Young LLP, an independent registered public accounting firm, as stated in their report, which is included herein.

Changes in Internal Control

As required by Rule 13a-15(d) of the Exchange Act, our management, including our principal executive officer and our principal financial officer, conducted an evaluation of the internal control over financial reporting to determine whether any changes occurred during the quarter ended

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December 31, 2015 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. Based on that evaluation, our principal executive officer and principal financial officer concluded no such changes during the quarter ended December 31, 2015 materially affected, or were reasonably likely to materially affect, our internal control over financial reporting.

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Report of Independent Registered Public Accounting Firm

The Board of Directors and Shareholders of Ironwood Pharmaceuticals, Inc.

We have audited Ironwood Pharmaceuticals, Inc.'s internal control over financial reporting as of December 31, 2015, based on criteria established in Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). Ironwood Pharmaceuticals, Inc.'s management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the company's internal control over financial reporting based on our audit.

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

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

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

In our opinion, Ironwood Pharmaceuticals, Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2015, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Ironwood Pharmaceuticals, Inc. as of December 31, 2015 and 2014, and the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2015 of Ironwood Pharmaceuticals, Inc. and our report dated February 19, 2016 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Boston, Massachusetts
February 19, 2016

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

None.

PART III

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

We have adopted a code of business conduct and ethics applicable to our directors, executive officers and all other employees. A copy of that code is available on our corporate website at http://www.ironwoodpharma.com. Any amendments to the code of business conduct and ethics, and any waivers thereto involving our executive officers, also will be available on our corporate website. A printed copy of these documents will be made available upon request. The content on our website is not incorporated by reference into this Annual Report on Form 10-K.

Certain information regarding our executive officers is set forth at the end of Part I, Item 1 of this Form 10-K under the heading, "Executive Officers of the Registrant." The other information required by this item is incorporated by reference from our proxy statement for our 2016 Annual Meeting of Stockholders.

Item 11. *Executive Compensation*

The information required by this item is incorporated by reference from our proxy statement for our 2016 Annual Meeting of Stockholders.

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

The information required by this item is incorporated by reference from our proxy statement for our 2016 Annual Meeting of Stockholders.

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

The information required by this item is incorporated by reference from our proxy statement for our 2016 Annual Meeting of Stockholders.

Item 14. *Principal Accountant Fees and Services*

The information required by this item is incorporated by reference from our proxy statement for our 2016 Annual Meeting of Stockholders.

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PART IV

Item 15. *Exhibits and Financial Statement Schedules*

(a) List of documents filed as part of this report

(1) Consolidated Financial Statements listed under Part II, Item 8 and included herein by reference.

(2) Consolidated Financial Statement Schedules

No schedules are submitted because they are not applicable, not required or because the information is included in the Consolidated Financial Statements or Notes to Consolidated Financial Statements.

(3) Exhibits

		Incorporated by reference herein	
Number	**Description**	**Form**	**Date**
3.1	Eleventh Amended and Restated Certificate of Incorporation	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2010
3.2	Fifth Amended and Restated Bylaws	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2010
4.1	Specimen Class A common stock certificate	Registration Statement on Form S-1, as amended (File No. 333-163275)	January 20, 2010
4.2	Eighth Amended and Restated Investors' Rights Agreement, dated as of September 1, 2009, by and among Ironwood Pharmaceuticals, Inc., the Founders and the Investors named therein	Registration Statement on Form S-1, as amended (File No. 333-163275)	November 20, 2009
4.3	Indenture, dated as of January 4, 2013, by and between Ironwood Pharmaceuticals, Inc., as issuer of the Notes, and U.S. Bank National Association, as initial trustee of the Notes and as Operating Bank (including the form of the Linaclotide PhaRMA^{SM} 11% Notes due 2024)	Form 8-K (File No. 001-34620)	January 8, 2013
4.4	Indenture, dated as of June 15, 2015, by and between Ironwood Pharmaceuticals, Inc. and U. S. Bank National Association (including the form of the 2.25% Convertible Senior Note due 2022)	Form 8-K (File No. 001-34620)	June 15, 2015

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		Incorporated by reference herein	
Number	Description	Form	Date
10.1#	Amended and Restated 2002 Stock Incentive Plan and form agreements thereunder	Registration Statement on Form S-1, as amended (File No. 333-163275)	December 23, 2009
10.2#	Amended and Restated 2005 Stock Incentive Plan and form agreements thereunder	Registration Statement on Form S-1, as amended (File No. 333-163275)	January 29, 2010
10.3#	Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan	Registration Statement on Form S-8, as amended (File No. 333-184396)	October 12, 2012
10.3.1#	Form of Stock Option Agreement under the Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan	Annual Report on Form 10-K (File No. 001-34620)	February 18, 2015
10.3.2#	Form of Non-employee Director Restricted Stock Agreement under the Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan	Annual Report on Form 10-K (File No. 001-34620)	February 18, 2015
10.3.3#	Form of Restricted Stock Unit Agreement under the Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan	Annual Report on Form 10-K (File No. 001-34620)	February 18, 2015
10.4#	Amended and Restated 2010 Employee Stock Purchase Plan	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.5#	Change of Control Severance Benefit Plan, as amended and restated	Quarterly Report on Form 10-Q (File No. 001-34620)	April 29, 2014
10.6#	Form of Executive Severance Agreement	Annual Report on Form 10-K (File No. 001-34620)	February 18, 2015
10.7#	Director Compensation Plan effective January 1, 2014	Annual Report on Form 10-K (File No. 001-34620)	February 7, 2014
10.8#	Form of Indemnification Agreement with Directors and Officers	Registration Statement on Form S-1, as amended (File No. 333-163275)	December 23, 2009
10.9#	Consulting Agreement, dated as of December 16, 2014, by and between Christopher Walsh and Ironwood Pharmaceuticals, Inc.	Annual Report on Form 10-K (File No. 001-34620)	February 18, 2015

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		Incorporated by reference herein	
Number	Description	Form	Date
10.10#	Consulting Agreement, dated December 3, 2014, by and between Lawrence S. Olanoff and Ironwood Pharmaceuticals, Inc.	Quarterly Report on Form 10-Q (File No. 001-34620)	May 6, 2015
10.11+	Collaboration Agreement, dated as of September 12, 2007, as amended on November 3, 2009, by and between Forest Laboratories, Inc. and Ironwood Pharmaceuticals, Inc.	Registration Statement on Form S-1, as amended (File No. 333-163275)	February 2, 2010
10.11.1	Amendment No. 2 to the Collaboration Agreement, dated as of January 8, 2013, by and between Forest Laboratories, Inc. and Ironwood Pharmaceuticals, Inc.	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.12+	License Agreement, dated as of April 30, 2009, by and between Allergan Pharmaceuticals International Ltd. (formerly with Almirall, S.A.) and Ironwood Pharmaceuticals, Inc.	Registration Statement on Form S-1, as amended (File No. 333-163275)	February 2, 2010
10.12.1+	Amendment No. 1 to License Agreement, dated as of June 11, 2013, by and between Allergan Pharmaceuticals International Ltd. (formerly with Almirall, S.A.) and Ironwood Pharmaceuticals, Inc.	Quarterly Report on Form 10-Q (File No. 001-34620)	August 8, 2013
10.12.2++*	Amendment to the License Agreement, dated as of October 26, 2015, by and between Allergan Pharmaceuticals International Ltd. and Ironwood Pharmaceuticals, Inc.		
10.13++*	Novation Agreement, dated as of October 26, 2015, by and among Almirall, S.A., Allergan Pharmaceuticals International Ltd. and Ironwood Pharmaceuticals, Inc.		
10.14+	License Agreement, dated as of November 10, 2009, by and among Astellas Pharma Inc. and Ironwood Pharmaceuticals, Inc.	Registration Statement on Form S-1, as amended (File No. 333-163275)	February 2, 2010

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Number	Description	Incorporated by reference herein Form	Date
10.15+	Collaboration Agreement, dated as of October 23, 2012, by and between AstraZeneca AB and Ironwood Pharmaceuticals, Inc.	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.16+	Commercial Supply Agreement, dated as of June 23, 2010, by and among PolyPeptide Laboratories, Inc. and Polypeptide Laboratories (SWEDEN) AB, Forest Laboratories, Inc. and Ironwood Pharmaceuticals, Inc.	Quarterly Report on Form 10-Q (File No. 001-34620)	August 10, 2010
10.17+	Commercial Supply Agreement, dated as of March 28, 2011, by and among Corden Pharma Colorado, Inc. (f/k/a Roche Colorado Corporation), Ironwood Pharmaceuticals, Inc. and Forest Laboratories, Inc.	Quarterly Report on Form 10-Q (File No. 001-34620)	May 13, 2011
10.17.1+	Amendment No. 3 to Commercial Supply Agreement, dated as of November 26, 2013, by and between Corden Pharma Colorado, Inc. (f/k/a Roche Colorado Corporation), Ironwood Pharmaceuticals, Inc. and Forest Laboratories, Inc.	Annual Report on Form 10-K (File No. 001-34620)	February 7, 2014
10.18	Lease for facilities at 301 Binney St., Cambridge, MA, dated as of January 12, 2007, as amended on April 9, 2009, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Registration Statement on Form S-1, as amended (File No. 333-163275)	December 23, 2009
10.18.1	Second Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of February 9, 2010, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2010
10.18.2	Third Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of July 1, 2010, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2011

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Number	Description	Incorporated by reference herein Form	Date
10.18.3	Fourth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of February 3, 2011, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2011
10.18.4	Fifth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of October 18, 2011, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 29, 2012
10.18.5	Sixth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of July 19, 2012, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.18.6	Seventh Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of October 30, 2012, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.18.7	Eighth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of July 8, 2014, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 18, 2015
10.18.8	Ninth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of October 27, 2014, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 18, 2015
10.18.9	Tenth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of January 21, 2015, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 18, 2015

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		Incorporated by reference herein	
Number	Description	Form	Date
10.18.10	Sublease, dated as of July 1, 2014, by and between Biogen Idec MA Inc. and Ironwood Pharmaceuticals, Inc. to Lease for facilities at 301 Binney St., Cambridge, MA, as amended, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 18, 2015
10.19	Base Call Option Transaction Confirmation, dated as of June 10, 2015, between Ironwood Pharmaceuticals, Inc. and JPMorgan Chase Bank, National Association, London Branch	Quarterly Report on Form 10-Q (File No. 001-34620)	August 7, 2015
10.20	Base Call Option Transaction Confirmation, dated as of June 10, 2015, between Ironwood Pharmaceuticals, Inc. and Credit Suisse Capital LLC, through its agent Credit Suisse Securities (USA) LLC	Quarterly Report on Form 10-Q (File No. 001-34620)	August 7, 2015
10.21	Base Warrants Confirmation, dated as of June 10, 2015, between Ironwood Pharmaceuticals, Inc. and JPMorgan Chase Bank, National Association, London Branch	Quarterly Report on Form 10-Q (File No. 001-34620)	August 7, 2015
10.22	Base Warrants Confirmation, dated as of June 10, 2015, between Ironwood Pharmaceuticals, Inc. and Credit Suisse Capital LLC, through its agent Credit Suisse Securities (USA) LLC	Quarterly Report on Form 10-Q (File No. 001-34620)	August 7, 2015
10.23	Additional Call Option Transaction Confirmation, dated as of June 22, 2015, between Ironwood Pharmaceuticals, Inc. and JPMorgan Chase Bank, National Association, London Branch	Quarterly Report on Form 10-Q (File No. 001-34620)	August 7, 2015

Number	Description	Incorporated by reference herein Form	Date
10.24	Additional Call Option Transaction Confirmation, dated as of June 22, 2015, between Ironwood Pharmaceuticals, Inc. and Credit Suisse Capital LLC, through its agent Credit Suisse Securities (USA) LLC	Quarterly Report on Form 10-Q (File No. 001-34620)	August 7, 2015
10.25	Additional Warrants Confirmation, dated as of June 22, 2015, between Ironwood Pharmaceuticals, Inc. and JPMorgan Chase Bank, National Association, London Branch	Quarterly Report on Form 10-Q (File No. 001-34620)	August 7, 2015
10.26	Additional Warrants Confirmation, dated as of June 22, 2015, between Ironwood Pharmaceuticals, Inc. and Credit Suisse Capital LLC, through its agent Credit Suisse Securities (USA) LLC	Quarterly Report on Form 10-Q (File No. 001-34620)	August 7, 2015
21.1*	Subsidiaries of Ironwood Pharmaceuticals, Inc.		
23.1*	Consent of Independent Registered Public Accounting Firm		
31.1*	Certification of Chief Executive Officer pursuant to Rules 13a-14 or 15d-14 of the Exchange Act		
31.2*	Certification of Chief Financial Officer pursuant to Rules 13a-14 or 15d-14 of the Exchange Act		
32.1	Certification of Chief Executive Officer pursuant to Rules 13a-14(b) or 15d-14(b) of the Exchange Act and 18 U.S.C. Section 1350		
32.2	Certification of Chief Financial Officer pursuant to Rules 13a-14(b) or 15d-14(b) of the Exchange Act and 18 U.S.C. Section 1350		
101.INS*	XBRL Instance Document		
101.SCH*	XBRL Taxonomy Extension Schema Document		
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document		

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		Incorporated by reference herein	
Number	**Description**	**Form**	**Date**
101.LAB*	XBRL Taxonomy Extension Label Linkbase Database		
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document		
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document		

*
Filed herewith.

Furnished herewith.

+
Confidential treatment granted under 17 C.F.R. §§200.80(b)(4) and 230.406. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions have been provided separately to the SEC pursuant to the confidential treatment request.

++
Confidential treatment requested under 17 C.F.R. §§200.80(b)(4) and Rule 24b-2. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions have been provided separately to the SEC pursuant to the confidential treatment request.

#
Management contract or compensatory plan, contract, or arrangement.

(b) Exhibits.

The exhibits required by this Item are listed under Item 15(a)(3).

(c) Financial Statement Schedules.

The financial statement schedules required by this Item are listed under Item 15(a)(2).

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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, in the City of Cambridge, Commonwealth of Massachusetts, on the 19th day of February 2016.

Ironwood Pharmaceuticals, Inc.

By: /s/ PETER M. HECHT

Peter M. Hecht
Chief Executive Officer

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the date indicated.

Signature	Title	Date
/s/ PETER M. HECHT Peter M. Hecht	Chief Executive Officer and Director (Principal Executive Officer)	February 19, 2016
/s/ THOMAS GRANEY Thomas Graney	Chief Financial Officer (Principal Financial Officer)	February 19, 2016
/s/ GINA CONSYLMAN Gina Consylman	Vice President, Finance and Chief Accounting Officer (Principal Accounting Officer)	February 19, 2016
/s/ TERRANCE G. MCGUIRE Terrance G. McGuire	Chairman of the Board	February 19, 2016
/s/ GEORGE H. CONRADES George H. Conrades	Director	February 19, 2016
/s/ MARSHA H. FANUCCI Marsha H. Fanucci	Director	February 19, 2016
/s/ JULIE H. MCHUGH Julie H. McHugh	Director	February 19, 2016

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Signature	Title	Date
/s/ LAWRENCE S. OLANOFF Lawrence S. Olanoff	Director	February 19, 2016
/s/ EDWARD P. OWENS Edward P. Owens	Director	February 19, 2016
/s/ BRYAN E. ROBERTS Bryan E. Roberts	Director	February 19, 2016
/s/ CHRISTOPHER T. WALSH Christopher T. Walsh	Director	February 19, 2016
/s/ DOUGLAS E. WILLIAMS Douglas E. Williams	Director	February 19, 2016

Index to Consolidated Financial Statements of
Ironwood Pharmaceuticals, Inc.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of
Ironwood Pharmaceuticals, Inc.

We have audited the accompanying consolidated balance sheets of Ironwood Pharmaceuticals, Inc. as of December 31, 2015 and 2014, and the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2015. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our 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 audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Ironwood Pharmaceuticals, Inc. at December 31, 2015 and 2014, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2015, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Ironwood Pharmaceuticals, Inc.'s internal control over financial reporting as of December 31, 2015, based on criteria established in Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 19, 2016 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Boston, Massachusetts
February 19, 2016

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Ironwood Pharmaceuticals, Inc.

Consolidated Balance Sheets

(In thousands, except share and per share amounts)

	December 31, 2015	December 31, 2014
ASSETS		
Current assets:		
Cash and cash equivalents	$ 261,287	$ 74,297
Available-for-sale securities	178,107	174,037
Accounts receivable	2,884	10
Related party accounts receivable, net	51,634	25,829
Inventory		4,954
Prepaid expenses and other current assets	6,293	9,180
Total current assets	500,205	288,307
Restricted cash	8,747	8,147
Property and equipment, net	21,075	29,826
Convertible note hedges	86,466	
Other assets	2,628	3,042
Total assets	$ 619,121	$ 329,322
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 8,586	$ 9,754
Related party accounts payable, net	3	8
Accrued research and development costs	4,245	3,574
Accrued expenses and other current liabilities	23,301	22,612
Current portion of capital lease obligations	2,631	1,152
Current portion of deferred rent	5,544	4,992
Current portion of deferred revenue	7,191	7,191
Current portion of PhaRMA notes payable	24,964	11,258
Total current liabilities	76,465	60,541
Capital lease obligations, net of current portion	306	2,571
Deferred rent, net of current portion	6,395	10,522
Deferred revenue, net of current portion	1,798	8,989
Note hedge warrants	75,328	
Convertible senior notes	220,620	
PhaRMA Notes payable, net of current portion	132,964	158,147
Other liabilities	10,120	
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, $0.001 par value, 75,000,000 shares authorized, no shares issued and outstanding		
Class A common stock, $0.001 par value, 500,000,000 shares authorized and 127,371,478 and 124,915,658 shares issued and outstanding at December 31, 2015 and 2014, respectively	127	125
Class B common stock, $0.001 par value, 100,000,000 shares authorized and 15,870,356 and 15,907,272 shares issued and outstanding at December 31, 2015 and 2014, respectively	16	16
Additional paid-in capital	1,205,183	1,055,876
Accumulated deficit	(1,110,115)	(967,446)

Accumulated other comprehensive loss		(86)		(19)
Total stockholders' equity		95,125		88,552
Total liabilities and stockholders' equity	$	619,121	$	329,322

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

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Ironwood Pharmaceuticals, Inc.

Consolidated Statements of Operations

(In thousands, except per share amounts)

	Years Ended December 31, 2015	2014	2013
Collaborative arrangements revenue	$ 149,555	$ 76,436	$ 22,881
Cost and expenses:			
Cost of revenue	12	5,291	7,203
Write-down of inventory to net realizable value and loss on non-cancellable purchase commitments	17,638	20,292	
Research and development	108,746	101,890	102,378
Selling, general and administrative	125,247	118,333	123,228
Collaboration expense			42,074
Total cost and expenses	251,643	245,806	274,883
Loss from operations	(102,088)	(169,370)	(252,002)
Other (expense) income:			
Interest expense	(31,096)	(21,166)	(21,002)
Interest and investment income	443	257	192
Loss on derivatives	(9,928)		
Other income		661	
Other expense, net	(40,581)	(20,248)	(20,810)
Net loss	$ (142,669)	$ (189,618)	$ (272,812)
Net loss per share basic and diluted	$ (1.00)	$ (1.39)	$ (2.35)
Weighted average number of common shares used in net loss per share basic and diluted:	142,155	136,811	115,852

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

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Ironwood Pharmaceuticals, Inc.

Consolidated Statements of Comprehensive Loss

(In thousands)

	Years Ended December 31,		
	2015	**2014**	**2013**
Net loss	$ (142,669)	$ (189,618)	$ (272,812)
Other comprehensive loss:			
Unrealized losses on available-for-sale securities	(67)	(21)	(3)
Total other comprehensive loss	(67)	(21)	(3)
Comprehensive loss	$ (142,736)	$ (189,639)	$ (272,815)

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

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Ironwood Pharmaceuticals, Inc.

Consolidated Statements of Stockholders' Equity

(In thousands, except share amounts)

	Class A common stock		Class B common stock					
	Shares	Amount	Shares	Amount	Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive income (loss)	Total Stockholders' equity
Balance at December 31, 2012	78,253,074	$ 78	29,512,253	$ 30	$ 648,955	$ (505,016)	$ 5	$ 144,052
Issuance of common stock upon exercise of stock options and employee stock purchase plan	645,196	1	1,538,887	1	9,295			9,297
Issuance of common stock awards	10,772				28			28
Issuance of common stock upon public offering, net of offering costs of $7.9 million	11,204,948	11			137,755			137,766
Conversion of Class B common stock to Class A common stock	12,689,103	13	(12,689,103)	(13)				
Share-based compensation expense related to issuance of stock options to non-employees					272			272
Share-based compensation expense related to share-based awards to employees and employee stock purchase plan					19,624			19,624
Restricted common stock no longer subject to repurchase					1			1
Unrealized losses on short-term investments							(3)	(3)
Net loss						(272,812)		(272,812)
Balance at December 31, 2013	102,803,093	103	18,362,037	18	815,930	(777,828)	2	38,225
Issuance of common stock upon exercise of stock options and employee stock purchase plan	1,705,752	2	1,876,880	2	23,328			23,332
Issuance of common stock awards	290,843				22			22
Issuance of common stock upon public offering, net of offering costs of $10.8 million	15,784,325	16			190,412			190,428
Conversion of Class B common stock to Class A common stock	4,331,645	4	(4,331,645)	(4)				
Share-based compensation expense related to issuance of stock options to non-employees					2,618			2,618
Share-based compensation expense related to share-based awards to employees and employee stock purchase plan					23,566			23,566
Unrealized losses on short-term investments							(21)	(21)
Net loss						(189,618)		(189,618)

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

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Ironwood Pharmaceuticals, Inc.

Consolidated Statements of Stockholders' Equity (Continued)

(In thousands, except share amounts)

	Class A common stock		Class B common stock				Accumulated other	
	Shares	Amount	Shares	Amount	Additional paid-in capital	Accumulated deficit	comprehensive income (loss)	Total Stockholders' equity
Balance at December 31, 2014	124,915,658	125	15,907,272	16	1,055,876	(967,446)	(19)	88,552
Issuance of common stock upon exercise of stock options and employee stock purchase plan	972,325	1	1,293,032	1	13,619			13,621
Issuance of common stock awards	153,547				24			24
Conversion of Class B common stock to Class A common stock	1,329,948	1	(1,329,948)	(1)				
Share-based compensation expense related to share-based awards to employees and employee stock purchase plan					25,448			25,448
Equity component of convertible debt					114,199			114,199
Equity component of deferred financing costs for convertible debt					(3,983)			(3,983)
Unrealized losses on short-term investments							(67)	(67)
Net loss						(142,669)		(142,669)
Balance at December 31, 2015	127,371,478	$ 127	15,870,356	$ 16	$ 1,205,183	$ (1,110,115)	$ (86)	$ 95,125

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

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Ironwood Pharmaceuticals, Inc.

Consolidated Statements of Cash Flows

(In thousands)

	Year Ended December 31,		
	2015	**2014**	**2013**
Cash flows from operating activities:			
Net loss	$ (142,669)	$ (189,618)	$ (272,812)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	11,630	12,331	11,729
(Gain) loss on disposal of property and equipment	(196)	119	610
Share-based compensation expense	25,469	26,184	19,829
Change in fair value of note hedge warrants	4,479		
Change in fair value of convertible note hedges	5,449		
Write-down of inventory to net realizable value and loss on non-cancellable purchase commitments	17,638	20,292	
Loss on facility subleases	296	2,573	
Accretion of discount/premium on investment securities	1,114	1,085	1,254
Non-cash interest expense	8,102	1,566	1,719
Changes in assets and liabilities:			
Accounts receivable and related party accounts receivable	(28,679)	(23,680)	(1,726)
Restricted cash	(600)		(500)
Prepaid expenses and other current assets	2,568	(3,947)	(52)
Inventory		(3,078)	(11,915)
Other assets	414	(2,876)	116
Accounts payable, related party accounts payable and accrued expenses	(1,551)	1,425	(11,724)
Accrued research and development costs	671	162	(2,252)
Deferred revenue	(7,191)	744	(4,915)
Deferred rent	(3,871)	1,811	(2,716)
Other liabilities		(661)	
Net cash used in operating activities	(106,927)	(155,568)	(273,355)
Cash flows from investing activities:			
Purchases of available-for-sale securities	(281,958)	(253,995)	(287,943)
Sales and maturities of available-for-sale securities	276,707	200,964	196,102
Purchases of property and equipment	(4,049)	(3,538)	(9,592)
Proceeds from sale of property and equipment	147		
Net cash used in investing activities	(9,153)	(56,569)	(101,433)
Cash flows from financing activities:			
Proceeds from issuance of convertible senior notes	335,699		
Costs associated with issuance of convertible senior notes	(11,730)		
Proceeds from issuance of common stock		190,428	137,766
Proceeds from issuance of PhaRMA notes payable			175,000
Costs associated with issuance of PhaRMA notes payable			(7,717)
Proceeds from issuance of note hedge warrants	70,849		
Purchase of convertible note hedges	(91,915)		
Proceeds from exercise of stock options, and shares issued under employee stock purchase plan	14,196	22,741	9,297
Payments on capital lease obligations	(1,317)	(1,062)	(768)
Principal payments on PhaRMA notes payable	(12,712)	(1,163)	
Net cash provided by financing activities	303,070	210,944	313,578
Net increase (decrease) in cash and cash equivalents	186,990	(1,193)	(61,210)
Cash and cash equivalents, beginning of period	74,297	75,490	136,700

Cash and cash equivalents, end of period	$	261,287	$	74,297	$	75,490
Supplemental cash flow disclosure:						
Cash paid for interest	$	22,742	$	19,606	$	18,428
Non-cash investing activities						
Purchases under capital leases	$	2,957	$	766	$	4,472
Disposals under capital leases	$	(2,529)	$		$	
Fixed asset purchases in accounts payable and accrued expenses	$	98	$	1,592	$	261

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

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements

1. Nature of Business

Ironwood Pharmaceuticals, Inc. (the "Company") is a commercial biotechnology company leveraging its proven development and commercial capabilities as it seeks to bring multiple medicines to patients. The Company is advancing two therapeutic platforms, which include product opportunities in areas of large unmet need, including irritable bowel syndrome with constipation ("IBS-C) and chronic idiopathic constipation ("CIC"), vascular and fibrotic diseases, and refractory gastroesophageal reflux disease ("GERD").

The Company's first and to-date only commercial product, linaclotide, is available to adult men and women suffering from IBS-C or CIC in the United States ("U.S.") under the trademarked name LINZESS®, and is available to adult men and women suffering from IBS-C in certain European countries under the trademarked name CONSTELLA®. The Company and its U.S. partner Allergan plc (together with its affiliates, "Allergan"), formerly Actavis plc, began commercializing LINZESS in the U.S. in December 2012. Under the Company's collaboration with Allergan for North America, total net sales of LINZESS in the U.S., as recorded by Allergan, are reduced by commercial costs incurred by each party, and the resulting amount is shared equally between the Company and Allergan.

The Company's former European partner, Almirall, S.A. ("Almirall"), began commercializing CONSTELLA in Europe for the symptomatic treatment of moderate to severe IBS-C in adults in the second quarter of 2013. In October 2015, Almirall transferred its exclusive license to develop and commercialize linaclotide in Europe to Allergan, and the Company and Allergan entered into an amendment to the European license agreement (Note 4). Currently, CONSTELLA is commercially available in certain European countries, including the United Kingdom, Italy and Spain.

Within the Company's gastrointestinal ("GI") platform, the Company and Allergan are exploring development opportunities to enhance the clinical profile of LINZESS by seeking to expand its utility within IBS-C and CIC, as well as studying linaclotide in additional indications and populations to assess its potential to treat various GI conditions. The Company and Allergan are also developing linaclotide colonic release, a targeted oral delivery formulation of linaclotide designed to potentially improve abdominal pain relief in adult IBS-C patients. The Company is also exploring linaclotide colonic release for use in additional GI disorders where lower abdominal pain is a predominant symptom such as IBS-mixed ("IBS-M"), ulcerative colitis and diverticulitis, among others. Linaclotide is also being developed and commercialized in other parts of the world by certain of the Company's partners. In addition, the Company is advancing other GI development programs for indications such as refractory GERD and diabetic gastroparesis.

Within the Company's vascular/fibrotic platform, it is leveraging its pharmacological expertise in guanylate cyclase ("GC") pathways gained through the discovery and development of linaclotide to advance development programs targeting soluble guanylate cyclase ("sGC"). sGC is a validated mechanism with the potential for broad therapeutic utility and multiple opportunities for product development in vascular and fibrotic diseases, as well as other therapeutic areas.

In addition to the U.S. and Europe, the Company has entered into partnerships to develop and commercialize linaclotide in other parts of the world. In December 2013 and February 2014, linaclotide was approved in Canada and Mexico, respectively, as a treatment for adult women and men suffering from IBS-C or CIC. Allergan has exclusive rights to commercialize linaclotide in Canada as CONSTELLA and, through a sublicense from Allergan, Almirall had exclusive rights to commercialize linaclotide in Mexico as LINZESS. In May 2014, Allergan began commercializing CONSTELLA in

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

1. Nature of Business (Continued)

Canada and in June 2014, Almirall began commercializing LINZESS in Mexico. In October 2015, Almirall and Allergan terminated the sublicense arrangement with respect to Mexico, returning the exclusive rights to commercialize CONSTELLA in Mexico to Allergan. CONSTELLA continues to be available to adult IBS-C patients in Mexico.

Astellas Pharma Inc. ("Astellas"), the Company's partner in Japan, is developing linaclotide for the treatment of patients with IBS-C and chronic constipation in its territory. In November 2015, the Company and Astellas reported positive top-line data from Astellas' Phase III clinical trial of linaclotide in adult patients with IBS-C for Japan. In October 2012, the Company entered into a collaboration agreement with AstraZeneca AB ("AstraZeneca") to co-develop and co-commercialize linaclotide in China, Hong Kong and Macau, with AstraZeneca having primary responsibility for the local operational execution. In December 2015, the Company and AstraZeneca filed for approval with the China Food and Drug Administration ("CFDA") to market linaclotide in China. The Company continues to assess alternatives to bring linaclotide to IBS-C and CIC sufferers in the parts of the world outside of its partnered territories.

In March 2015, the Company and Exact Sciences Corp, ("Exact Sciences"), entered into an agreement to co-promote Cologuard®, the first and only FDA-approved noninvasive stool DNA screening test for colorectal cancer, and in August 2015, the Company and Allergan entered into an agreement for the co-promotion of VIBERZI (eluxadoline) in the U.S., Allergan's treatment for adults suffering from IBS with diarrhea ("IBS-D").

In November 2015, Allergan and Pfizer Inc. entered into a definitive agreement providing for the combination of the two companies. The Company's collaboration for the development and commercialization of linaclotide, as well as the Company's agreement to co-promote VIBERZI, remains in effect.

These agreements are more fully described in Note 4, *Collaboration, License and Co-promotion Agreements*, to these consolidated financial statements.

In June 2015, the Company issued approximately $335.7 million in aggregate principal amount of 2.25% Convertible Senior Notes due 2022 (the "2022 Notes"). The Company received net proceeds of approximately $324.0 million from the sale of the 2022 Notes, after deducting fees and expenses of approximately $11.7 million (Note 10).

The Company was incorporated in Delaware on January 5, 1998 as Microbia, Inc. On April 7, 2008, the Company changed its name to Ironwood Pharmaceuticals, Inc. To date, the Company has dedicated substantially all of its activities to the research, development and commercialization of linaclotide, as well as to the research and development of its other product candidates. The Company has incurred significant operating losses since its inception in 1998. As of December 31, 2015, the Company had an accumulated deficit of approximately $1.1 billion.

2. Summary of Significant Accounting Policies

Principles of Consolidation

The accompanying consolidated financial statements include the accounts of Ironwood Pharmaceuticals, Inc. and its wholly owned subsidiaries, Ironwood Pharmaceuticals Securities

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

Corporation and Ironwood Pharmaceuticals GmbH. All intercompany transactions and balances are eliminated in consolidation.

Use of Estimates

The preparation of consolidated financial statements in accordance with U.S. generally accepted accounting principles requires the Company's management to make estimates and judgments that may 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 amounts of revenues and expenses during the reported periods. On an on-going basis, the Company's management evaluates its estimates, judgments and methodologies. Significant estimates and assumptions in the consolidated financial statements include those related to revenue recognition, available-for-sale securities, inventory valuation, and related reserves; impairment of long-lived assets; initial valuation procedures for the issuance of convertible notes; fair value of derivatives; balance sheet classification of notes payable and convertible notes; income taxes, including the valuation allowance for deferred tax assets; research and development expenses; contingencies and share-based compensation. The Company bases its estimates on historical experience and on various other assumptions that are believed to be reasonable, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Actual results may differ materially from these estimates under different assumptions or conditions. Changes in estimates are reflected in reported results in the period in which they become known.

Cash and Cash Equivalents

The Company considers all highly liquid investment instruments with a remaining maturity when purchased of three months or less to be cash equivalents. Investments qualifying as cash equivalents primarily consist of money market funds and U.S. government-sponsored securities. The carrying amount of cash equivalents approximates fair value. The amount of cash equivalents included in cash and cash equivalents was approximately $258.2 million and approximately $61.0 million at December 31, 2015 and 2014, respectively.

Restricted Cash

The Company is contingently liable under unused letters of credit with a bank, related to the Company's facility lease and automobile lease agreements, in the amount of approximately $8.7 million and approximately $8.1 million as of December 31, 2015 and 2014, respectively. As a result, the Company has restricted cash of approximately $8.7 million and approximately $8.1 million as of December 31, 2015 and 2014, respectively, securing these letters of credit. The cash will be restricted until the termination of the lease arrangements.

Available-for-Sale Securities

The Company classifies all short-term investments with a remaining maturity when purchased of greater than three months as available-for-sale. Available-for-sale securities are recorded at fair value, with the unrealized gains and losses reported in other comprehensive income (loss). The amortized cost of debt securities in this category is adjusted for the amortization of premiums and accretion of discounts to maturity. Such amortization is included in interest and investment income. Realized gains

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

and losses, interest, dividends, and declines in value judged to be other than temporary on available-for-sale securities are included in interest and investment income.

The cost of securities sold is based on the specific identification method for purposes of recording realized gains and losses. To determine whether an other-than-temporary impairment exists, the Company considers whether it has the ability and intent to hold the investment until a market price recovery, and whether evidence indicating the recoverability of the cost of the investment outweighs evidence to the contrary. There were no other-than-temporary impairments for the years ended December 31, 2015, 2014 or 2013.

Inventory

Inventory is stated at the lower of cost or market with cost determined under the first-in, first-out basis.

The Company evaluates inventory levels quarterly and any inventory that has a cost basis in excess of its expected net realizable value, inventory that becomes obsolete, inventory in excess of expected sales requirements, inventory that fails to meet commercial sale specifications or is otherwise impaired is written down with a corresponding charge to the statement of operations in the period that the impairment is first identified. The Company also assesses, on a quarterly basis, whether it has any excess non-cancelable purchase commitments resulting from its minimum supply agreements with its suppliers of linaclotide active pharmaceutical ingredient ("API"). The Company relies on data from several sources to estimate the net realizable value of inventory and non-cancelable purchase commitments, including partner forecasts of projected inventory purchases that are received quarterly, the Company's internal forecasts and related process, historical sales by geographic region, and the status of and progress toward commercialization of linaclotide in partnered territories.

The Company capitalizes inventories manufactured in preparation for initiating sales of a product candidate when the related product candidate is considered to have a high likelihood of regulatory approval and the related costs are expected to be recoverable through sales of the inventories. In determining whether or not to capitalize such inventories, the Company evaluates, among other factors, information regarding the product candidate's safety and efficacy, the status of regulatory submissions and communications with regulatory authorities and the outlook for commercial sales, including the existence of current or anticipated competitive drugs and the availability of reimbursement. In addition, the Company evaluates risks associated with manufacturing the product candidate, including the ability of the Company's third-party suppliers to complete the validation batches, and the remaining shelf life of the inventories.

Costs associated with developmental products prior to satisfying the inventory capitalization criteria are charged to research and development expense as incurred.

Concentrations of Suppliers

The Company relies on third-party manufacturers and its collaboration partners to manufacture the linaclotide API and final linaclotide drug product. Currently, there are two third-party manufacturers approved for the production of the linaclotide API in three facilities. Each of Allergan and Astellas is responsible for drug product manufacturing of linaclotide into finished product for its respective territory. Under the Company's collaboration with AstraZeneca, the Company is responsible

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

for drug product and finished goods manufacturing for China, Hong Kong and Macau. The Company also has an agreement with another independent third party to serve as a second source of drug product manufacturing of linaclotide for its partnered territories. If any of the Company's suppliers were to limit or terminate production or otherwise fail to meet the quality or delivery requirements needed to satisfy the supply commitments, the process of locating and qualifying alternate sources could require up to several months, during which time the Company's production could be delayed. Such delays could have a material adverse effect on the Company's business, financial position and results of operations.

Accounts Receivable and Related Valuation Account

The Company makes judgments as to its ability to collect outstanding receivables and provides an allowance for receivables when collection becomes doubtful. Provisions are made based upon a specific review of all significant outstanding invoices and the overall quality and age of those invoices not specifically reviewed. The Company's receivables primarily relate to amounts reimbursed under its collaboration, license and co-promotion agreements. The Company believes that credit risks associated with these partners are not significant. To date, the Company has not had any write-offs of bad debt, and the Company did not have an allowance for doubtful accounts as of December 31, 2015 and 2014.

Concentrations of Credit Risk

Financial instruments that subject the Company to credit risk primarily consist of cash and cash equivalents, restricted cash, available-for-sale securities, and accounts receivable. The Company maintains its cash and cash equivalent balances with high-quality financial institutions and, consequently, the Company believes that such funds are subject to minimal credit risk. The Company's available-for-sale investments primarily consist of U.S. Treasury securities and certain U.S. government-sponsored securities and potentially subject the Company to concentrations of credit risk. The Company has adopted an investment policy which limits the amounts the Company may invest in any one type of investment, and requires all investments held by the Company to be at least A+ rated, thereby reducing credit risk exposure.

Accounts receivable, including related party accounts receivable, primarily consist of amounts due under the linaclotide collaboration agreement with Allergan for North America, the linaclotide license agreement with Astellas for Japan and the co-promotion agreement with Exact Sciences for its Cologuard product (Note 4) for which the Company does not obtain collateral. Accounts receivable or payable to or from Allergan and Almirall are presented as related party transactions on the consolidated balance sheets as both entities own common stock of the Company.

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

The percentages of revenue recognized from significant customers of the Company in the years ended December 31, 2015, 2014 and 2013 as well as the account receivable balances, net of any payables due, at December 31, 2015 and 2014 are included in the following table:

	Accounts Receivable		Revenue		
	December 31,		Years Ended December 31,		
	2015	2014	2015	2014	2013
Collaborative Partner:					
Linaclotide Agreements:					
Allergan (North America)	95%	100%	90%	62%	13%
Almirall (Europe)(1)	%	%	%	10%	57%
Astellas (Japan)	2%	%	5%	23%	25%
AstraZeneca (China, Hong Kong and Macau)(2)	1%	%	2%	5%	5%
Co-promotion Agreements:					
Exact Sciences (Cologuard)	2%	%	3%	%	%

(1) In October 2015, Almirall transferred its exclusive license to develop and commercialize linaclotide in Europe to Allergan. There were no accounts receivable due from Almirall as of December 31, 2015.

(2) At December 31, 2014, the Company was in a net payable position with AstraZeneca; as such, there was no accounts receivable due from AstraZeneca as of December 31, 2014.

For the years ended December 31, 2015, 2014 and 2013, no additional customers accounted for more than 10% of the Company's revenue.

Deferred Financing Costs

Deferred financing costs include costs directly attributable to the Company's offerings of its equity securities and its debt financings. Costs attributable to equity offerings are charged against the proceeds of the offering once the offering is completed. Costs attributable to debt financings are deferred and amortized over the term of the debt using the effective interest rate method. A portion of the deferred financing cost incurred in connection with the 2022 Notes was deemed to relate to the equity component and was allocated to additional paid in capital.

In April 2015, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2015-03, *Simplifying the Presentation of Debt Issuance Costs* ("ASU 2015-03"). ASU 2015-03 requires debt issuance costs to be presented in an entity's balance sheet as a direct deduction from the associated debt liability. While the standard is retrospectively effective for annual reporting periods beginning after December 15, 2015, early adoption is permitted for any annual reporting period or interim period for which the entity's financial statements have not yet been issued.

The Company elected early adoption of ASU 2015-03 in the three months ended June 30, 2015, which resulted in a balance sheet reclassification of issuance costs in connection with the 11% PhaRMA Notes due 2024 (the "PhaRMA Notes") of approximately $1.4 million recorded in prepaid expenses and other current assets and approximately $2.8 million in other assets to a reduction in PhaRMA Notes payable as of December 31, 2014. The financing costs incurred in connection with the

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

issuance of the Company's 2022 Notes were recorded as a reduction in the carrying value of such debt in accordance with ASU 2015-03. The Company's adoption of this standard did not have a significant impact on its results of operations or cash flows for the year ended December 31, 2015.

The 2022 Notes and PhaRMA Notes are more fully described in Note 10, *Notes Payable*, to these consolidated financial statements.

Derivative Assets and Liabilities

In June 2015, in connection with the issuance of the 2022 Notes, the Company entered into convertible note hedge transactions (the "Convertible Note Hedges"). Concurrently with entering into the Convertible Note Hedges, the Company also entered into certain warrant transactions in which it sold note hedge warrants (the "Note Hedge Warrants") to the Convertible Note Hedge counterparties to acquire 20,249,665 shares of the Company's Class A common stock, subject to customary anti-dilution adjustments (Note 10). These instruments are derivative financial instruments under Accounting Standards Codification ("ASC") Topic 815, *Derivatives and Hedging* ("ASC 815").

These derivatives are recorded as assets or liabilities at fair value each reporting period and the fair value is determined using the Black-Scholes option-pricing model. The changes in fair value are recorded as a component of other (expense) income in the consolidated statements of operations. Significant inputs used to determine the fair value include the price per share of the Company's Class A common stock on the date of valuation, time to maturity of the derivative instruments, the strike prices of the derivative instruments, the risk-free interest rate, and the volatility of the Company's Class A common stock. Changes to these inputs could materially affect the valuation of the Convertible Note Hedges and Note Hedge Warrants in future periods.

Revenue Recognition

The Company's revenue is generated primarily through collaborative research and development, licensing and co-promotion agreements. The terms of these agreements contain multiple deliverables which may include (i) licenses, (ii) research and development activities, including participation on joint steering committees, (iii) the manufacture of finished drug product, API, or development materials for a partner which are reimbursed at a contractually determined rate, and (iv) co-promotion activities by the Company's clinical sales specialists. Non-refundable payments to the Company under these agreements may include (i) up-front license fees, (ii) payments for research and development activities, (iii) payments for the manufacture of finished drug product, API, or development materials, (iv) payments based upon the achievement of certain milestones, (v) payments for sales detailing, promotional support services and medical education initiatives, and (vi) royalties on product sales. Additionally, the Company may receive its share of the net profits or bear its share of the net losses from the sale of linaclotide in the U.S. and for China, Hong Kong and Macau through its collaborations with Allergan and AstraZeneca, respectively.

At December 31, 2015, the Company had collaboration agreements with Allergan (North America) and AstraZeneca (China, Hong Kong and Macau), as well as license agreements with Allergan (Europe) and Astellas (Japan). Additionally, the Company had co-promotion agreements with Allergan for VIBERZI and Exact Sciences for Cologuard in the U.S. (Note 4).

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

The Company recognizes revenue when there is persuasive evidence that an arrangement exists, services have been rendered or delivery has occurred, the price is fixed or determinable, and collection is reasonably assured.

For certain of the Company's arrangements, particularly the license agreement with Allergan for the European territory, it is required that taxes be withheld on payments to the Company. The Company has adopted a policy to recognize revenue net of these tax withholdings.

Agreements Entered into Prior to January 1, 2011

For arrangements that include multiple deliverables and were entered into prior to January 1, 2011, the Company follows the provisions of ASC Topic 605-25, *Revenue Recognition Multiple-Element Arrangements* ("ASC 605-25"), in accounting for these agreements. Under ASC 605-25, the Company was required to identify the deliverables included within the agreement and evaluate which deliverables represent separate units of accounting. Collaborative research and development and licensing agreements that contained multiple deliverables were divided into separate units of accounting when the following criteria were met:

- Delivered element(s) had value to the collaborator on a standalone basis,
- There was objective and reliable evidence of the fair value of the undelivered obligation(s), and
- If the arrangement included a general right of return relative to the delivered item(s), delivery or performance of the undelivered item(s) was considered probable and substantially within the Company's control.

The Company allocated arrangement consideration among the separate units of accounting either on the basis of each unit's respective fair value or using the residual method, and applied the applicable revenue recognition criteria to each of the separate units. If the separation criteria were not met, revenue of the combined unit of accounting was recorded based on the method appropriate for the last delivered item.

Up-Front License Fees

The Company recognizes revenue from nonrefundable, up-front license fees on a straight-line basis over the contracted or estimated period of performance, which is typically the period over which the research and development is expected to occur or manufacturing services are expected to be provided. Accordingly, the Company is required to make estimates regarding the drug development and commercialization timelines for drugs and drug candidates being developed pursuant to any applicable agreement. The determination of the length of the period over which to recognize the revenue is subject to judgment and estimation and can have an impact on the amount of revenue recognized in a given period. Quarterly, the Company reassesses its period of substantial involvement over which the Company amortizes its up-front license fees and makes adjustments as appropriate. The Company's estimates regarding the period of performance under its collaborative research and development and licensing agreements have changed in the past and may change in the future. Any change in the Company's estimates could result in substantial changes to the Company's results for the period over which the revenues from an up-front license fee are recognized. In the event that an arrangement were to be terminated, the Company would recognize as revenue any portion of the up-front fee that had not previously been recorded as revenue, but was classified as deferred revenue at the date of such

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

termination. At December 31, 2015, of the Company's linaclotide collaboration and license arrangements, only a portion of Astellas' up-front license fee remained deferred. The up-front license fees under the Allergan collaboration for North America and the Allergan collaboration for Europe (previously with Almirall) were fully amortized at December 31, 2015, as the period of performance under those arrangements ended in the three months ended September 30, 2012.

Agreements Entered into or Materially Modified on or after January 1, 2011

The Company evaluates revenue from new multiple element agreements entered into on or after January 1, 2011 under ASU No. 2009-13, *Multiple-Deliverable Revenue Arrangements* ("ASU 2009-13"). The Company also evaluates whether amendments to its multiple element arrangements are considered material modifications that are subject to the application of ASU 2009-13. This evaluation requires management to assess all relevant facts and circumstances and to make subjective determinations and judgments. As part of this assessment, the Company considers whether the modification results in a material change to the arrangement, including whether there is a change in total arrangement consideration that is more than insignificant, whether there are changes in the deliverables included in the arrangement, whether there is a change in the term of the arrangement and whether there is a significant modification to the delivery schedule for contracted deliverables.

When evaluating multiple element arrangements under ASU 2009-13, the Company considers whether the deliverables under the arrangement represent separate units of accounting. This evaluation requires subjective determinations and requires management to make judgments about the individual deliverables and whether such deliverables are separable from the other aspects of the contractual relationship. In determining the units of accounting, management evaluates certain criteria, including whether the deliverables have standalone value, based on the consideration of the relevant facts and circumstances for each arrangement. Factors considered in this determination include the research, manufacturing and commercialization capabilities of the partner and the availability of peptide research and manufacturing expertise in the general marketplace. In addition, the Company considers whether the collaborator can use the license or other deliverables for their intended purpose without the receipt of the remaining elements, and whether the value of the deliverable is dependent on the undelivered items and whether there are other vendors that can provide the undelivered items.

The consideration received is allocated among the separate units of accounting using the relative selling price method, and the applicable revenue recognition criteria are applied to each of the separate units.

The Company determines the estimated selling price for deliverables using vendor-specific objective evidence ("VSOE") of selling price, if available, third-party evidence ("TPE") of selling price if VSOE is not available, or best estimate of selling price ("BESP") if neither VSOE nor TPE is available. Determining the BESP for a deliverable requires significant judgment. The Company uses BESP to estimate the selling price for licenses to the Company's proprietary technology, since the Company often does not have VSOE or TPE of selling price for these deliverables. In those circumstances where the Company utilizes BESP to determine the estimated selling price of a license to the Company's proprietary technology, the Company considers market conditions as well as entity-specific factors, including those factors contemplated in negotiating the agreements as well as internally developed models that include assumptions related to the market opportunity, estimated development costs, probability of success and the time needed to commercialize a product candidate pursuant to the

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

license. In validating the Company's BESP, the Company evaluates whether changes in the key assumptions used to determine the BESP will have a significant effect on the allocation of arrangement consideration between multiple deliverables.

At December 31, 2015, the Company's collaboration agreement with AstraZeneca for linaclotide and co-promotion agreements with Allergan for VIBERZI and Exact Sciences for Cologuard in the U.S. are each being accounted for under ASU 2009-13.

Up-Front License Fees

When management believes the license to its intellectual property has stand-alone value, the Company generally recognizes revenue attributed to the license upon delivery. When management believes the license to its intellectual property does not have stand-alone value from the other deliverables to be provided in the arrangement, it is combined with other deliverables and the revenue of the combined unit of accounting is recorded based on the method appropriate for the last delivered item.

Milestones

At the inception of each arrangement that includes pre-commercial milestone payments, the Company evaluates whether each pre-commercial milestone is substantive, in accordance with ASU No. 2010-17, *Revenue Recognition Milestone Method* ("ASU 2010-17"), adopted on January 1, 2011. This evaluation includes an assessment of whether (a) the consideration is commensurate with either (1) the entity's performance to achieve the milestone, or (2) the enhancement of the value of the delivered item(s) as a result of a specific outcome resulting from the entity's performance to achieve the milestone, (b) the consideration relates solely to past performance and (c) the consideration is reasonable relative to all of the deliverables and payment terms within the arrangement. The Company evaluates factors such as the scientific, clinical, regulatory, commercial and other risks that must be overcome to achieve the respective milestone, the level of effort and investment required and whether the milestone consideration is reasonable relative to all deliverables and payment terms in the arrangement in making this assessment. At December 31, 2015, the Company had no pre-commercial milestones that were deemed substantive. If a substantive pre-commercial milestone were achieved and collection of the related receivable was reasonably assured, the Company would recognize revenue related to the milestone in its entirety in the period in which the milestone was achieved. If the Company were to achieve milestones that are considered substantive under any of the Company's collaborations, the Company may experience significant fluctuations in collaborative arrangements revenue from quarter to quarter and year to year depending on the timing of achieving such substantive milestones. In those circumstances where a pre-commercial milestone is not substantive, the Company recognizes as revenue on the date the milestone is achieved an amount equal to the applicable percentage of the performance period that had elapsed as of the date the milestone was achieved, with the balance being deferred and recognized over the remaining period of performance. Pre-commercial milestone payments received prior to the adoption of ASU 2010-17 continue to be recognized over the remaining period of performance.

Commercial milestones are accounted for as royalties and are recorded as revenue upon achievement of the milestone, assuming all other revenue recognition criteria are met.

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

Net Profit or Net Loss Sharing

In accordance with ASC 808 Topic, *Collaborative Arrangements*, and ASC 605-45, *Principal Agent Considerations*, the Company considers the nature and contractual terms of the arrangement and the nature of the Company's business operations to determine the classification of the transactions under the Company's collaboration agreements. The Company records revenue transactions gross in the consolidated statements of operations if it is deemed the principal in the transaction, which includes being the primary obligor and having the risks and rewards of ownership.

The Company recognizes its share of the pre-tax commercial net profit or net loss generated from the sales of LINZESS in the U.S. in the period the product sales are reported by Allergan and related cost of goods sold and selling, general and administrative expenses are incurred by the Company and its collaboration partner. These amounts are partially determined based on amounts provided by Allergan and involve the use of estimates and judgments, such as product sales allowances and accruals related to prompt payment discounts, chargebacks, governmental and contractual rebates, wholesaler fees, product returns, and co-payment assistance costs, which could be adjusted based on actual results in the future. The Company is highly dependent on Allergan for timely and accurate information regarding any net revenues realized from sales of LINZESS in the U.S. and the costs incurred in selling it, in order to accurately report its results of operations. For the periods covered in the consolidated financial statements presented, there have been no material changes to prior period estimates of revenues, cost of goods sold or selling, general and administrative expenses associated with the sales of LINZESS in the U.S. However, if the Company does not receive timely and accurate information or incorrectly estimates activity levels associated with the collaboration at a given point in time, the Company could be required to record adjustments in future periods.

The Company records its share of the net profits or net losses from the sales of LINZESS in the U.S. on a net basis and presents the settlement payments to and from Allergan as collaboration expense or collaborative arrangements revenue, as applicable, as the Company is not the primary obligor and does not have the risks and rewards of ownership in the collaboration agreement with Allergan for North America. The Company and Allergan settle the cost sharing quarterly, such that the Company's statement of operations reflects 50% of the pre-tax net profit or loss generated from sales of LINZESS in the U.S.

Royalties on Product Sales

The Company receives or expects to receive in the future royalty revenues under certain of the Company's license or collaboration agreements. If the Company does not have any future performance obligations under these license or collaborations agreements, the Company records these revenues as earned. To the extent the Company does not have access to the royalty reports from the Company's partners or the ability to accurately estimate the royalty revenue in the period earned, the Company records such royalty revenues one quarter in arrears.

Other

The Company produces finished drug product, API and development materials for certain of its partners.

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

The Company recognizes revenue on finished drug product, API and development materials when the material has passed all quality testing required for collaborator acceptance, delivery has occurred, title and risk of loss have transferred to the collaborator, the price is fixed or determinable, and collection is reasonably assured. As it relates to development materials and API produced for Astellas, the Company is reimbursed at a contracted rate. Such reimbursements are considered as part of revenue generated pursuant to the Astellas license agreement and are presented as collaborative arrangements revenue. Any finished drug product, API and development materials currently produced for Allergan for the U.S. or AstraZeneca for China, Hong Kong and Macau are recognized in accordance with the cost-sharing provisions of the Allergan and AstraZeneca collaboration agreements, respectively. In October 2015, Almirall transferred its exclusive license to develop and commercialize linaclotide in Europe to Allergan, and the Company separately entered into an amendment to the license agreement with Allergan relating to the development and commercialization of linaclotide in Europe. Pursuant to the terms of the amendment, Allergan assumed responsibility for the manufacturing of linaclotide API for Europe from the Company, as well as the associated costs (Note 4).

Cost of Revenue

Cost of revenue is recognized upon shipment of linaclotide API to certain of the Company's licensing partners outside of the U.S. and consists of the internal and external costs of producing such API.

During the year ended December 31, 2015, the Company recorded expenses of approximately $17.6 million for the write-down of inventory and an accrual for excess non-cancelable inventory purchase commitments related to linaclotide API. These charges primarily related to a reduction in the near term demand forecast for CONSTELLA in the European territory by Almirall, the Company's former European partner; recent regulatory changes made by the CFDA to the marketing approval process in China; and the amendment to the license agreement with Allergan pertaining to the development and commercialization of linaclotide for Europe executed in October 2015. Pursuant to the terms of the amendment, Allergan assumed responsibility for the manufacturing of linaclotide API for Europe, as well as the associated costs, which resulted in accruing for a loss on non-cancelable inventory purchase commitments under one of the Company's API supply agreements covering the commercial supply of linaclotide API for the European market.

During the year ended December 31, 2014, the Company wrote-down approximately $20.3 million in inventory to an estimated net realizable value of approximately $5.0 million. This write-down was primarily attributable to Almirall's reduced inventory demand forecasts for the European territory, mainly due to the suspension of commercialization of CONSTELLA in Germany and a challenging commercial environment throughout Europe.

The write-down of inventory to net realizable value and the loss on non-cancelable inventory purchase commitments is recorded as a separate line item in the Company's Consolidated Statement of Operations. These charges are more fully described in Note 7, *Inventory*, to these consolidated financial statements.

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

Research and Development Costs

The Company expenses research and development costs to operations as incurred. The Company defers and capitalizes nonrefundable advance payments made by the Company for research and development activities until the related goods are received or the related services are performed.

Research and development expenses are comprised of costs incurred in performing research and development activities, including salary, benefits and other employee-related expenses; share-based compensation expense; laboratory supplies and other direct expenses; facilities expenses; overhead expenses; third-party contractual costs relating to nonclinical studies and clinical trial activities and related contract manufacturing expenses, development of manufacturing processes and regulatory registration of third-party manufacturing facilities; licensing fees for the Company's product candidates; and other outside expenses.

The Company has entered into collaboration agreements with Allergan for the U.S. and AstraZeneca for China, Hong Kong and Macau pursuant to which it shares research and development expenses with its collaborators. The Company records expenses incurred under the collaboration arrangements for such work as research and development expense. Because the collaboration arrangements are cost-sharing arrangements, the Company concluded that when there is a period during the collaboration arrangements during which the Company receives payments from Allergan or AstraZeneca for such territories, the Company records the payments by Allergan or AstraZeneca for their share of the development effort as a reduction of research and development expense. Payments to Allergan or AstraZeneca for such territories are recorded as incremental research and development expense.

Selling, General and Administrative Expenses

The Company expenses selling, general and administrative costs to operations as incurred. Selling, general and administrative expense consists primarily of compensation, benefits and other employee-related expenses for personnel in the Company's administrative, finance, legal, information technology, business development, commercial, sales, marketing, communications and human resource functions. Other costs include the legal costs of pursuing patent protection of the Company's intellectual property, general and administrative related facility costs, insurance costs and professional fees for accounting and legal services.

Under the collaboration agreements with Allergan for the U.S. and AstraZeneca for China, Hong Kong and Macau, the Company is reimbursed for certain selling, general and administrative expenses and it nets these reimbursements against selling, general and administrative expenses as incurred. Payments to Allergan or AstraZeneca for such territories are recorded as incremental selling, general and administrative expense.

Share-Based Compensation

The Company's stock-based compensation programs grant awards which have included stock awards, restricted stock, restricted stock units ("RSUs"), and stock options. Share-based compensation is recognized as an expense in the financial statements based on the grant date fair value over the requisite service period. For awards that vest based on service conditions, the Company uses the straight-line method to allocate compensation expense to reporting periods. The grant date fair value of

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

options granted is calculated using the Black-Scholes option-pricing model, which requires the use of subjective assumptions including volatility and expected term, among others. The fair value of the Company's RSUs is based on the market value of the Company's Class A common stock on the date of grant. Compensation expense for RSUs is recognized on a straight-line basis over the applicable service period.

The Company records the expense for stock option grants subject to performance-based milestone vesting using the accelerated attribution method over the remaining service period when management determines that achievement of the milestone is probable. Management evaluates when the achievement of a performance-based milestone is probable based on the relative satisfaction of the performance conditions as of the reporting date.

The Company records the expense of services rendered by non-employees based on the estimated fair value of the stock option using the Black-Scholes option-pricing model. The fair value of unvested non-employee awards is remeasured at each reporting period and expensed over the vesting term of the underlying stock options.

Patent Costs

The Company incurred and recorded as operating expense legal and other fees related to patents of approximately $2.2 million, approximately $1.3 million, and approximately $3.2 million for the years ended December 31, 2015, 2014 and 2013, respectively. These costs were charged to selling, general and administrative expenses as incurred.

Net Income (Loss) Per Share

The Company calculates basic net income (loss) per common share and diluted net income (loss) per common share by dividing the net income (loss) by the weighted average number of common shares outstanding during the period. Diluted net income (loss) per common share is computed by dividing net income (loss) by the diluted number of shares outstanding during the period. Except where the result would be antidilutive to net income (loss), diluted net income (loss) per common share is computed assuming the conversion of the 2022 Notes, the exercise of outstanding common stock options and the vesting of RSUs and restricted stock (using the treasury stock method), as well as their related income tax effects. The Company allocates undistributed earnings between the classes of common stock on a one-to-one basis when computing net income (loss) per share. As a result, basic and diluted net income (loss) per Class A and Class B shares are equivalent.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

Property and Equipment

Property and equipment, including leasehold improvements, are recorded at cost, and are depreciated when placed into service using the straight-line method based on their estimated useful lives as follows:

Asset Description	Estimated Useful Life (In Years)
Manufacturing equipment	10
Laboratory equipment	5
Computer and office equipment	3
Furniture and fixtures	7
Software	3

Included in property and equipment are certain costs of software obtained for internal use. Costs incurred during the preliminary project stage are expensed as incurred, while costs incurred during the application development stage are capitalized and amortized over the estimated useful life of the software. The Company also capitalizes costs related to specific upgrades and enhancements when it is probable the expenditures will result in additional functionality. Maintenance and training costs related to software obtained for internal use are expensed as incurred.

Leasehold improvements are amortized over the shorter of the estimated useful life of the asset or the lease term. Capital lease assets are amortized over the lease term. However, if ownership was transferred by the end of the capital lease, or there was a bargain purchase option, such capital lease assets would be amortized over the useful life that would be assigned if such assets were owned.

Costs for capital assets not yet placed into service have been capitalized as construction in progress, and will be depreciated in accordance with the above guidelines once placed into service. Maintenance and repair costs are expensed as incurred.

Income Taxes

The Company provides for income taxes under the liability method. Deferred tax assets and liabilities are determined based on differences between financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates in effect when the differences are expected to reverse. Deferred tax assets are reduced by a valuation allowance to reflect the uncertainty associated with their ultimate realization.

In November 2015, the FASB issued ASU No. 2015-17, *Balance Sheet Classification of Deferred Taxes* ("ASU 2015-17") which provides guidance for balance sheet classification of deferred taxes. This standard requires that deferred tax assets and liabilities be classified as non-current on the balance sheet, and eliminates the prior guidance which required an entity to separate deferred tax liabilities and assets into a current amount and a noncurrent amount on the balance sheet. ASU 2015-17 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2016. Earlier adoption is permitted as of the beginning of an interim or annual period. The amendments in ASU 2015-17 may be applied either prospectively to all deferred tax liabilities and assets or retrospectively to all periods presented. The Company elected early adoption in the year ended December 31, 2015, and elected to apply the amendments on a retrospective basis. The Company's

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

adoption of this standard did not have a significant impact on its consolidated balance sheet for the years ended December 31, 2015 or 2014, or on the results of operations or cash flows for the years ended December 31, 2015, 2014 or 2013.

The Company accounts for uncertain tax positions recognized in the consolidated financial statements in accordance with the provisions of ASC Topic 740, *Income Taxes*, by prescribing a more-likely-than-not threshold for financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. When uncertain tax positions exist, the Company recognizes the tax benefit of tax positions to the extent that the benefit will more likely than not be realized. The determination as to whether the tax benefit will more likely than not be realized is based upon the technical merits of the tax position as well as consideration of the available facts and circumstances. The Company evaluates uncertain tax positions on a quarterly basis and adjusts the level of the liability to reflect any subsequent changes in the relevant facts surrounding the uncertain positions. Any changes to these estimates, based on the actual results obtained and/or a change in assumptions, could impact the Company's income tax provision in future periods. Interest and penalty charges, if any, related to unrecognized tax benefits would be classified as a provision for income tax in the Company's consolidated statement of operations.

Impairment of Long-Lived Assets

The Company regularly reviews the carrying amount of its long-lived assets to determine whether indicators of impairment may exist, which warrant adjustments to carrying values or estimated useful lives. If indications of impairment exist, projected future undiscounted cash flows associated with the asset are compared to the carrying amount to determine whether the asset's value is recoverable. If the carrying value of the asset exceeds such projected undiscounted cash flows, the asset will be written down to its estimated fair value. There were no significant impairments of long-lived assets for the years ended December 31, 2015, 2014, or 2013.

Comprehensive Income (Loss)

Comprehensive income (loss) is defined as the change in equity of a business enterprise during a period from transactions, and other events and circumstances from non-owner sources and currently consists of net loss and changes in unrealized gains and losses on available-for-sale securities.

Segment Information

Operating segments are components of an enterprise for which separate financial information is available and is evaluated regularly by the Company's chief operating decision-maker in deciding how to allocate resources and in assessing performance. The Company currently operates in one reportable business segment human therapeutics.

Reclassifications and Revisions to Prior Period Financial Statements

Certain financial statement items have been reclassified to conform to the current period presentation.

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

Subsequent Events

The Company considers events or transactions that have occurred after the balance sheet date of December 31, 2015, but prior to the filing of the financial statements with the Securities and Exchange Commission to provide additional evidence relative to certain estimates or to identify matters that require additional recognition or disclosure. Subsequent events have been evaluated through the filing of the financial statements accompanying this Annual Report on Form 10-K.

New Accounting Pronouncements

From time to time, new accounting pronouncements are issued by the FASB or other standard setting bodies that are adopted by the Company as of the specified effective date. Except as set forth below, the Company did not adopt any new accounting pronouncements during the year ended December 31, 2015 that had a material effect on its consolidated financial statements.

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers* ("ASU 2014-09"), which supersedes the revenue recognition requirements in ASC Topic 605, *Revenue Recognition*, and most industry-specific guidance. The new standard requires that an entity recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. The update also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. ASU 2014-09 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2017 and should be applied retrospectively to each prior reporting period presented or retrospectively with the cumulative effect of initially applying this update recognized at the date of initial application. Early adoption is permitted beginning after December 15, 2016, including interim reporting periods within those years. The Company is currently evaluating the potential impact that ASU 2014-09 may have on its financial position and results of operations.

In August 2014, the FASB issued ASU No. 2014-15, *Presentation of Financial Statements Going Concern: Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern (*"ASU 2014-15"). ASU 2014-15 is intended to define management's responsibility to evaluate whether there is substantial doubt about an organization's ability to continue as a going concern and to provide related footnote disclosures, if required. ASU 2014-15 is effective for annual reporting periods ending after December 15, 2016, and applies to annual and interim periods thereafter. The Company is evaluating the impact that the adoption of ASU 2014-15 will have on the Company's consolidated financial statements and related disclosures, but does not expect it to have a significant impact on the Company's results of operations, cash flows or financial position.

In April 2015, the FASB issued ASU No. 2015-05, *Customer's Accounting for Fees Paid in a Cloud Computing Arrangement*, which amends ASC Topic 350, *Intangibles Goodwill and Other Internal Use Software*. Under this standard, if a cloud computing arrangement includes a software license, the software license element of the arrangement should be accounted for consistent with the acquisition of other software licenses. If a cloud computing arrangement does not include a software license, the arrangement should be accounted for as a service contract. The amendments are effective for fiscal years, and interim periods within those years, beginning after December 15, 2015 and may be applied on either a prospective or retrospective basis. Early adoption is not permitted. The Company does not

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

expect adoption of this standard to have a significant impact on the Company's financial position or results of operations.

In July 2015, the FASB issued ASU No. 2015-11, *Inventory (Topic 330): Simplifying the Measurement of Inventory* ("ASU 2015-11"). ASU 2015-11 requires that for entities that measure inventory using the first-in, first-out method, inventory should be measured at the lower of cost and net realizable value. The standard defines net realizable value as the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. The standard is effective for fiscal years, and interim periods within those years, beginning after December 15, 2016. Early adoption is permitted. The adoption of this standard is not expected to have a significant impact on the Company's financial position or results of operations.

No other accounting standards known by the Company to be applicable to it that have been issued or proposed by the FASB or other standard-setting bodies and that do not require adoption until a future date are expected to have a material impact on the Company's consolidated financial statements upon adoption.

3. Net Loss Per Share

The following table sets forth the computation of basic and diluted net loss per share (in thousands, except per share amounts):

	Year Ended December 31,		
	2015	**2014**	**2013**
Numerator:			
Net Loss	$ (142,669)	$ (189,618)	$ (272,812)
Denominator:			
Weighted average number of common shares used in net loss per share basic and diluted	142,155	136,811	115,852
Net loss per share basic and diluted	$ (1.00)	$ (1.39)	$ (2.35)

In June 2015, in connection with the issuance of approximately $335.7 million in aggregate principal amount of the 2022 Notes, the Company entered into the Convertible Note Hedges. The Convertible Note Hedges are generally expected to reduce the potential dilution to the Company's Class A common stockholders upon a conversion of the 2022 Notes and/or offset any cash payments the Company is required to make in excess of the principal amount of converted 2022 Notes in the event that the market price per share of the Company's Class A common stock, as measured under the terms of the Convertible Note Hedges, is greater than the conversion price of the 2022 Notes (Note 10). The Convertible Note Hedges are not considered for purposes of calculating the number of diluted weighted average shares outstanding, as their effect would be antidilutive.

Concurrently with entering into the Convertible Note Hedges, the Company also issued Note Hedge Warrants to the Convertible Note Hedge counterparties to acquire 20,249,665 shares of the Company's Class A common stock, subject to customary anti-dilution adjustments. The Note Hedge Warrants could have a dilutive effect on the Company's Class A common stock to the extent that the market price per share of the Class A common stock exceeds the applicable strike price of such

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

3. Net Loss Per Share (Continued)

warrants (Note 10). The Note Hedge Warrants are not considered for purposes of calculating the number of diluted weighted averages shares outstanding, as their effect would be antidilutive.

The following potentially dilutive securities have been excluded from the computation of diluted weighted average shares outstanding as they would be anti-dilutive (in thousands):

	Year Ended December 31,		
	2015	**2014**	**2013**
Options to purchase common stock	20,567	19,958	20,928
Shares subject to repurchase	74	99	
Unvested restricted stock units	900		
Note hedge warrants	20,250		
2022 Notes	20,250		
	62,041	20,057	20,928

An insignificant number of shares issuable under the Company's employee stock purchase plan were excluded from the calculation of diluted weighted average shares outstanding because their effects would be anti-dilutive.

4. Collaboration, License and Co-promotion Agreements

For the year ended December 31, 2015, the Company had linaclotide collaboration agreements with Allergan for North America and AstraZeneca for China, Hong Kong and Macau, as well as linaclotide license agreements with Allergan for the European territory (formerly with Almirall) and Astellas for Japan. The Company also had a co-promotion agreement with Exact Sciences to co-promote Cologuard in the U.S. and a co-promotion agreement with Allergan to co-promote VIBERZI in the U.S. The following table provides amounts included in the Company's consolidated statements of operations as collaborative arrangements revenue attributable to transactions from these arrangements (in thousands):

	Collaborative Arrangements Revenue Year Ended December 31,		
	2015	**2014**	**2013**
Linaclotide Agreements:			
Allergan (North America)	$ 134,335	$ 47,682	$ 2,957
AstraZeneca (China, Hong Kong and Macau)	2,370	3,417	1,044
Almirall (Europe)[1]	540	7,587	13,103
Astellas (Japan)	7,696	17,750	5,777
Co-promotion Agreements:			
Exact Sciences (Cologuard)	4,437		
Allergan (VIBERZI)	177		
Total collaborative arrangements revenue	$ 149,555	$ 76,436	$ 22,881

(1) In October 2015, Almirall transferred its exclusive license to develop and commercialize linaclotide in Europe to Allergan.

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration, License and Co-promotion Agreements (Continued)

Linaclotide Agreements

Collaboration Agreement for North America with Allergan

In September 2007, the Company entered into a collaboration agreement with Allergan to develop and commercialize linaclotide for the treatment of IBS-C, CIC and other GI conditions in North America. Under the terms of this collaboration agreement, the Company shares equally with Allergan all development costs as well as net profits or losses from the development and sale of linaclotide in the U.S. The Company receives royalties in the mid-teens percent based on net sales in Canada and Mexico. Allergan is solely responsible for the further development, regulatory approval and commercialization of linaclotide in those countries and funding any costs. In September 2012, Allergan sublicensed its commercialization rights in Mexico to Almirall. In October 2015, Almirall and Allergan terminated the sublicense arrangement with respect to Mexico, returning the exclusive rights to commercialize CONSTELLA in Mexico to Allergan. CONSTELLA continues to be available to adult IBS-C patients in Mexico. Allergan made non-refundable, up-front payments totaling $70.0 million to the Company in order to obtain rights to linaclotide in North America. Because the license to jointly develop and commercialize linaclotide did not have a standalone value without research and development activities provided by the Company, the Company recorded the up-front license fee as collaborative arrangements revenue on a straight line basis through September 30, 2012, the period over which linaclotide was jointly developed under the collaboration. The Company achieved all six development milestones under this agreement totaling $135.0 million, which were recognized through September 2012. The remaining milestone payment that could be received from Allergan upon the achievement of sales targets will be recognized as collaborative arrangements revenue as earned. The collaboration agreement for North America also includes contingent milestone payments, as well as a contingent equity investment, based on the achievement of specific development and commercial milestones. At December 31, 2015, $205.0 million in license fees and development milestone payments had been received by the Company, as well as a $25.0 million equity investment in the Company's capital stock. The Company can also achieve up to $100.0 million in a sales related milestone if certain conditions are met.

The collaboration agreement for North America included a contingent equity investment, in the form of a forward purchase contract, which required Allergan to purchase shares of the Company's convertible preferred stock upon achievement of a specific development milestone. At the inception of the arrangement, the Company valued the contingent equity investment and recorded an approximately $9.0 million asset and incremental deferred revenue. The $9.0 million of incremental deferred revenue was recognized as collaborative arrangements revenue on a straight-line basis over the period of the Company's continuing involvement through September 30, 2012. In July 2009, the Company achieved the development milestone triggering the equity investment and reclassified the forward purchase contract as a reduction to convertible preferred stock. On September 1, 2009, the Company issued 2,083,333 shares of convertible preferred stock to Allergan (Note 16).

As a result of the research and development cost-sharing provisions of the collaboration for North America, the Company offset approximately $16.9 million and $4.3 million against research and development costs during the years ended December 31, 2015 and 2014, respectively. The Company recognized approximately $2.2 million in incremental research and development costs during the year ended December 31, 2013, to reflect its obligation under the collaboration to bear half of the development costs incurred by both parties. In addition, in March 2015, the Company and Allergan

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration, License and Co-promotion Agreements (Continued)

agreed to share certain costs relating to the manufacturing of linaclotide API and certain other manufacturing activities. This arrangement resulted in net amounts received from Allergan of approximately $4.3 million for costs incurred in prior periods, which were recorded by the Company as a reduction in research and development expenses during the year ended December 31, 2015.

The Company receives 50% of the net profits and bears 50% of the net losses from the commercial sale of LINZESS in the U.S.; provided, however, that if either party provides fewer calls on physicians in a particular year than it is contractually required to provide, such party's share of the net profits will be adjusted as stipulated by the collaboration agreement for North America. Certain of these adjustments to the share of the net profits may be reduced or eliminated in connection with the co-promotion activities under the Company's agreement with Allergan to co-promote VIBERZI in the U.S., as described below. Net profits or net losses consist of net sales to third-party customers and sublicense income in the U.S. less the cost of goods sold as well as selling, general and administrative expenses. Net sales are calculated and recorded by Allergan and may include gross sales net of discounts, rebates, allowances, sales taxes, freight and insurance charges, and other applicable deductions. The Company records its share of the net profits or net losses from the sale of LINZESS on a net basis and presents the settlement payments to and from Allergan as collaboration expense or collaborative arrangements revenue, as applicable. The Company and Allergan began commercializing LINZESS in the U.S. in December 2012.

The Company recognized collaborative arrangements revenue from the Allergan collaboration agreement for North America during the years ended December 31, 2015, 2014 and 2013 as follows (in thousands):

	Year Ended December 31,		
	2015	2014	2013
Collaborative arrangements revenue related to sales of LINZESS in the U.S.[1][2]	$ 133,425	$ 47,618	$ 2,914
Royalty revenue	910	64	
Sale of API			43
Total collaborative arrangements revenue	$ 134,335	$ 47,682	$ 2,957

The collaborative arrangements revenue recognized in the years ended December 31, 2015, 2014 and 2013 primarily represents the Company's share of the net profits and net losses on the sale of LINZESS in the U.S.

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration, License and Co-promotion Agreements (Continued)

The following table presents the amounts recorded by the Company for commercial efforts related to LINZESS in the U.S. in the years ended December 31, 2015, 2014 and 2013 (in thousands):

	Year Ended December 31,		
	2015	2014	2013
Collaborative arrangements revenue related to sales of LINZESS in the U.S.[(1)(2)]	$ 133,425	$ 47,618	$ 2,914
Collaboration expense			(42,074)
Selling, general and administrative costs incurred by the Company[(1)]	(32,028)	(31,646)	(33,839)
The Company's share of net profit (loss)	$ 101,397	$ 15,972	$ (72,999)

(1) Includes only collaborative arrangement revenue or selling, general and administrative costs attributable to the cost-sharing arrangement with Allergan.

(2) Includes net profit share adjustment payable to Allergan of approximately $2.4 million recorded during the year ended December 31, 2015. Certain of the unfavorable adjustments to the Company's share of the LINZESS net profits may be reduced or eliminated in connection with the co-promotion activities under the Company's agreement with Allergan to co-promote VIBERZI in the U.S., as described below. During the year ended December 31, 2015, in connection with these co-promotion activities, the net profit share adjustments payable to Allergan under the linaclotide collaboration agreement for North America were reduced by approximately $2.9 million and were reflected as collaborative arrangements revenue under this agreement. Net profit share adjustments received from Allergan of approximately $1.7 million were recorded during the year ended December 31, 2014.

In May 2014, Allergan began commercializing CONSTELLA in Canada and in June 2014, Almirall began commercializing LINZESS in Mexico. In October 2015, Almirall and Allergan terminated the sublicense arrangement with respect to Mexico, returning the exclusive rights to commercialize CONSTELLA in Mexico to Allergan. CONSTELLA continues to be available to adult IBS-C patients in Mexico. The Company records royalties on sales of CONSTELLA in Canada and LINZESS in Mexico one quarter in arrears as it does not have access to the royalty reports from its partners or the ability to estimate the royalty revenue in the period earned. The Company recognized approximately $0.9 million and an insignificant amount of royalty revenues from Canada and Mexico during the years ended December 31, 2015 and 2014, respectively.

License Agreement for the European Territory with Allergan (formerly with Almirall through October 2015)

In April 2009, the Company entered into a license agreement with Almirall (the "European License Agreement") to develop and commercialize linaclotide in Europe (including the Commonwealth of Independent States and Turkey) for the treatment of IBS-C, CIC and other GI conditions. Under the terms of the European License Agreement, Almirall was responsible for the expenses associated with the development and commercialization of linaclotide in the European territory and the Company was required to participate on a joint development committee over linaclotide's development period and a joint commercialization committee while the product was being commercialized.

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration, License and Co-promotion Agreements (Continued)

In May 2009, the Company received an approximately $38.0 million payment from Almirall representing a $40.0 million non-refundable up-front payment net of foreign withholding taxes. The Company elected to record the non-refundable up-front payment net of taxes withheld. The license agreement also included a $15.0 million contingent equity investment, in the form of a forward purchase contract, which required Almirall to purchase shares of the Company's convertible preferred stock upon achievement of a specific development milestone. At the inception of the arrangement, the Company valued the contingent equity investment at approximately $6.0 million. The Company recognized the up-front license fee and the value of the contingent equity investment totaling approximately $6.0 million as collaborative arrangements revenue on a straight-line basis through September 30, 2012, the period over which linaclotide was developed under the European License Agreement. In November 2009, the Company achieved the development milestone triggering the equity investment and on November 13, 2009, the Company received $15.0 million from Almirall for the purchase of 681,819 shares of convertible preferred stock (Note 16).

The original European License Agreement also included contingent milestone payments that could total up to $40.0 million upon achievement of specific development and commercial launch milestones. In November 2010, the Company achieved a development milestone, which resulted in an approximately $19.0 million payment, representing a $20.0 million milestone, net of foreign withholding taxes. This development milestone was recognized as collaborative arrangements revenue through September 2012. Commercial milestone payments under the original European License Agreement consisted of $4.0 million due upon the first commercial launch in each of the five major European Union ("E.U.") countries set forth in the agreement.

In June 2013 and February 2014, the Company and Almirall amended the original European License Agreement. Pursuant to the terms of the amendments, (i) the commercial launch milestones were reduced to $17.0 million; (ii) new sales-based milestone payments were added to the agreement; and (iii) the escalating royalties based on sales of linaclotide were modified such that they began in the low-twenties percent and escalated to the mid-forties percent through April 2017, and thereafter began in the mid-twenties percent and escalated to the mid-forties percent at lower sales thresholds. In each case, these royalty payments were reduced by the transfer price paid for the API included in the product actually sold in the Almirall territory and other contractual deductions. The Company concluded that these amendments were a modification to the European License Agreement under ASU No. 2009-13, but the modification did not have a material impact on the Company's consolidated financial statements.

During the second quarter of 2013, the Company achieved two milestones under the amended European License Agreement, which resulted in payments of approximately $1.9 million from Almirall to the Company related to the commercial launches in two of the five major E.U. countries, the United Kingdom and Germany. The approximately $1.9 million payment represented the two $1.0 million milestones, net of foreign tax withholdings. During the first and second quarters of 2014, the Company achieved two additional milestones under the amended European License Agreement triggering payments of approximately $1.0 million each related to the commercial launches in two additional major E.U. countries, Italy and Spain. Each approximately $1.0 million payment represents the $1.0 million milestone, net of foreign tax withholdings.

In October 2015, Almirall transferred its exclusive license to develop and commercialize linaclotide in Europe to Allergan. Additionally, in October 2015, the Company and Allergan separately entered

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration, License and Co-promotion Agreements (Continued)

into an amendment to the European License Agreement relating to the development and commercialization of linaclotide in Europe. Pursuant to the terms of the amendment, (i) the remaining sales-based milestones payable to the Company under the European License Agreement were modified to increase the total milestone payments such that, when aggregated with the remaining commercial launch milestones, they could total up to $42.5 million, (ii) the royalties payable to the Company during the term of the European License Agreement were modified such that the royalties based on sales volume in Europe begin in the mid-single digit percent and escalate to the upper-teens percent by calendar year 2019, and (iii) Allergan assumed responsibility for the manufacturing of linaclotide API for Europe from the Company, as well as the associated costs. Furthermore, with the Company no longer responsible for the manufacturing of linaclotide API for Europe, the royalties under the license agreement will no longer be reduced by the transfer price paid for the API included in the product actually sold by Allergan in Europe in any given period.

The 2015 amendment to the European License Agreement does not represent a material modification to the linaclotide collaboration agreement with Allergan for North America and did not have a material impact on the Company's consolidated financial statements. The commercial launch and sales-based milestones under the European License Agreement are recognized as revenue as earned. The Company also records royalties on sales of CONSTELLA one quarter in arrears as it does not have access to the royalty reports from Allergan or the ability to estimate the royalty revenue in the period earned.

Concurrently with the European license transfer, Almirall and Allergan terminated the sublicense arrangement with respect to Mexico, returning the exclusive rights to commercialize CONSTELLA in Mexico to Allergan. CONSTELLA continues to be available to adult IBS-C patients in Mexico.

The Company recognized approximately $0.5 million of collaborative arrangements revenue, comprised of royalty revenue, from the European License Agreement during the year ended December 31, 2015. The Company recognized approximately $7.6 million in total collaborative arrangements revenue from the European License Agreement during the year ended December 31, 2014, including approximately $5.1 million from the sale of API to Almirall, approximately $1.9 million in commercial launch milestones, and approximately $0.6 million in royalty revenue. The Company recognized approximately $13.1 million in total collaborative arrangements revenue from the European License Agreement during the year ended December 31, 2013, including approximately $11.1 million from the sale of API to Almirall, approximately $0.2 million in royalty revenue and approximately $1.9 million in commercial launch milestones.

License Agreement for Japan with Astellas

In November 2009, the Company entered into a license agreement with Astellas to develop and commercialize linaclotide for the treatment of IBS-C, CIC and other GI conditions in Japan, South Korea, Taiwan, Thailand, the Philippines and Indonesia. As a result of an amendment executed in March 2013, the Company regained rights to linaclotide in South Korea, Taiwan, Thailand, the Philippines and Indonesia. The Company concluded that the amendment was not a material modification of the license agreement. Astellas continues to be responsible for all activities relating to development, regulatory approval and commercialization in Japan as well as funding any costs and the Company is required to participate on a joint development committee over linaclotide's development period.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration, License and Co-promotion Agreements (Continued)

In 2009, Astellas paid the Company a non-refundable, up-front licensing fee of $30.0 million, which is being recognized as collaborative arrangements revenue on a straight-line basis over the Company's estimate of the period over which linaclotide will be developed under the license agreement. In March 2013, the Company revised its estimate of the development period from 115 months to 85 months based on the Company's assessment of regulatory approval timelines for Japan. During the years ended December 31, 2015, 2014 and 2013, the Company recognized approximately $5.1 million, $5.1 million and $4.6 million of revenue related to the up-front licensing fee, respectively, including approximately $1.9 million, $1.9 million and $1.5 million of revenue in each period attributable to the March 2013 revision to the estimated development period. At December 31, 2015, approximately $6.3 million of the up-front license fee remained deferred.

The agreement also includes three development milestone payments that could total up to $45.0 million, none of which the Company considers substantive. The first milestone payment, consisting of $15.0 million upon enrollment of the first study subject in a Phase III study for linaclotide in Japan, was achieved in November 2014, and approximately $12.3 million was recognized as revenue through December 31, 2015, including approximately $2.1 million and approximately $10.2 million during the years ended December 31, 2015 and 2014, respectively. The remaining approximately $2.6 million of this milestone payment will be recognized over the remaining development period. The two additional milestone payments consist of $15.0 million upon filing of the Japanese equivalent of an NDA with the relevant regulatory authority in Japan and $15.0 million upon approval of such equivalent by the relevant regulatory authority. In addition, the Company will receive royalties which escalate based on sales volume, beginning in the low-twenties percent, less the transfer price paid for the API included in the product actually sold and other contractual deductions.

During the years ended December 31, 2015, 2014 and 2013, the Company recognized approximately $7.7 million, approximately $17.7 million, and approximately $5.8 million, respectively, in collaborative arrangements revenue from the Astellas license agreement, including approximately $0.5 million, approximately $2.4 million, and approximately $1.2 million, respectively, from the sale of API to Astellas.

Collaboration Agreement for China, Hong Kong and Macau with AstraZeneca

In October 2012, the Company entered into a collaboration agreement with AstraZeneca (the "AstraZeneca Collaboration Agreement") to co-develop and co-commercialize linaclotide in China, Hong Kong and Macau (the "License Territory"). The collaboration provides AstraZeneca with an exclusive nontransferable license to exploit the underlying technology in the License Territory. The parties share responsibility for continued development and commercialization of linaclotide under a joint development plan and a joint commercialization plan, respectively, with AstraZeneca having primary responsibility for the local operational execution.

The parties agreed to an Initial Development Plan ("IDP") which includes the planned development of linaclotide in China, including the lead responsibility for each activity and the related internal and external costs. The IDP indicates that AstraZeneca is responsible for a multinational Phase III clinical trial (the "Phase III Trial"), the Company is responsible for nonclinical development and supplying clinical trial material and both parties are responsible for the regulatory submission process. The IDP indicates that the party specifically designated as being responsible for a particular development activity under the IDP shall implement and conduct such activities. The activities are

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration, License and Co-promotion Agreements (Continued)

governed by a Joint Development Committee ("JDC"), with equal representation from each party. The JDC is responsible for approving, by unanimous consent, the joint development plan and development budget, as well as approving protocols for clinical studies, reviewing and commenting on regulatory submissions, and providing an exchange of data and information.

The AstraZeneca Collaboration Agreement will continue until there is no longer a development plan or commercialization plan in place, however, it can be terminated by AstraZeneca at any time upon 180 days' prior written notice. Under certain circumstances, either party may terminate the AstraZeneca Collaboration Agreement in the event of bankruptcy or an uncured material breach of the other party. Upon certain change in control scenarios of AstraZeneca, the Company may elect to terminate the AstraZeneca Collaboration Agreement and may re-acquire its product rights in a lump sum payment equal to the fair market value of such product rights.

In connection with the AstraZeneca Collaboration Agreement, the Company and AstraZeneca also executed a co-promotion agreement (the "Co-Promotion Agreement"), pursuant to which the Company utilized its existing sales force to co-promote NEXIUM® (esomeprazole magnesium), one of AstraZeneca's products, in the U.S. The Co-Promotion Agreement expired in May 2014.

There are no refund provisions in the AstraZeneca Collaboration Agreement and the Co-Promotion Agreement (together, the "AstraZeneca Agreements").

Under the terms of the AstraZeneca Collaboration Agreement, the Company received a $25.0 million non-refundable upfront payment upon execution. The Company is also eligible for $125.0 million in additional commercial milestone payments contingent on the achievement of certain sales targets. The parties will also share in the net profits and losses associated with the development and commercialization of linaclotide in the License Territory, with AstraZeneca receiving 55% of the net profits or incurring 55% of the net losses until a certain specified commercial milestone is achieved, at which time profits and losses will be shared equally thereafter.

Activities under the AstraZeneca Agreements were evaluated in accordance with the ASC 605-25, *Revenue Recognition Multiple-Element Arrangements* ("ASC 605-25"), to determine if they represented a multiple element revenue arrangement. The Company identified the following deliverables in the AstraZeneca Agreements:

- an exclusive license to develop and commercialize linaclotide in the License Territory (the "License Deliverable"),
- research, development and regulatory services pursuant to the IDP, as modified from time to time (the "R&D Services"),
- JDC services,
- obligation to supply clinical trial material, and
- co-promotion services for AstraZeneca's product (the "Co-Promotion Deliverable").

The License Deliverable is nontransferable and has certain sublicense restrictions. The Company determined that the License Deliverable had standalone value as a result of AstraZeneca's internal product development and commercialization capabilities, which would enable it to use the License Deliverable for its intended purposes without the involvement of the Company. The remaining deliverables were deemed to have standalone value based on their nature and all deliverables met the

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration, License and Co-promotion Agreements (Continued)

criteria to be accounted for as separate units of accounting under ASC 605-25. Factors considered in this determination included, among other things, whether any other vendors sell the items separately and if the customer could use the delivered item for its intended purpose without the receipt of the remaining deliverables.

The Company identified the supply of linaclotide drug product for commercial requirements and commercialization services as contingent deliverables because these services are contingent upon the receipt of regulatory approval to commercialize linaclotide in the License Territory, and there were no binding commitments or firm purchase orders pending for commercial supply. As these deliverables are contingent, and are not at an incremental discount, they are not evaluated as deliverables at the inception of the arrangement. These contingent deliverables will be evaluated and accounted for separately as each related contingency is resolved. As of December 31, 2015, no contingent deliverables were provided by the Company under the AstraZeneca Agreements.

In August 2014, the Company and AstraZeneca, through the JDC, modified the IDP and development budget to include approximately $14.0 million in additional activities over the remaining development period, to be shared by the Company and AstraZeneca under the terms of the AstraZeneca Collaboration Agreement. These additional activities serve to support the continued development of linaclotide in the Licensed Territory, including the Phase III Trial. Pursuant to the terms of the modified IDP and development budget, certain of the Company's deliverables were modified, specifically the R&D Services and the obligation to supply clinical trial material. The modification did not, however, have a material impact on the Company's consolidated financial statements.

The total amount of the non-contingent consideration allocable to the AstraZeneca Agreements of approximately $34.0 million ("Arrangement Consideration") includes the $25.0 million non-refundable upfront payment and 55% of the costs for clinical trial material supply services and research, development and regulatory activities allocated to the Company in the IDP or as approved by the JDC in subsequent periods, or approximately $9.0 million.

The Company allocated the Arrangement Consideration of approximately $34.0 million to the non-contingent deliverables based on management's BESP of each deliverable using the relative selling price method as the Company did not have VSOE or TPE of selling price for such deliverables. The Company estimated the BESP for the License Deliverable using a multi-period excess-earnings method under the income approach which utilized cash flow projections, the key assumptions of which included the following market conditions and entity-specific factors: (a) the specific rights provided under the license to develop and commercialize linaclotide; (b) the potential indications for linaclotide pursuant to the license; (c) the likelihood linaclotide will be developed for more than one indication; (d) the stage of development of linaclotide for IBS-C and CIC and the projected timeline for regulatory approval; (e) the development risk by indication; (f) the market size by indication; (g) the expected product life of linaclotide assuming commercialization; (h) the competitive environment, and (i) the estimated development and commercialization costs of linaclotide in the License Territory. The Company utilized a discount rate of 11.5% in its analysis, representing the weighted average cost of capital derived from returns on equity for comparable companies. The Company determined its BESP for the remaining deliverables based on the nature of the services to be performed and estimates of the associated effort and cost of the services adjusted for a reasonable profit margin such that they represented estimated market rates for similar services sold on a standalone basis. The Company

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Notes to Consolidated Financial Statements (Continued)

4. Collaboration, License and Co-promotion Agreements (Continued)

concluded that a change in key assumptions used to determine BESP for each deliverable would not have a significant effect on the allocation of the Arrangement Consideration, as the estimated selling price of the License Deliverable significantly exceeds the other deliverables.

Of the approximately $34.0 million of Arrangement Consideration, consisting of the $25.0 million non-refundable upfront payment and 55% of the costs for clinical trial material supply services and research, development and regulatory activities allocated to the Company, approximately $29.7 million was allocated to the License Deliverable, approximately $1.8 million to the R&D Services, approximately $0.1 million to the JDC services, approximately $0.3 million to the clinical trial material supply services, and approximately $2.1 million to the Co-Promotion Deliverable in the relative selling price model, at the time of the material modification.

Because the Company shares development costs with AstraZeneca, payments from AstraZeneca with respect to both research and development and selling, general and administrative costs incurred by the Company prior to the commercialization of linaclotide in the License Territory are recorded as a reduction in expense, in accordance with the Company's policy, which is consistent with the nature of the cost reimbursement. Development costs incurred by the Company that pertain to the joint development plan and subsequent amendments to the joint development plan, as approved by the JDC, are recorded as research and development expense as incurred. Payments to AstraZeneca are recorded as incremental research and development expense.

The Company completed its obligations related to the License Deliverable upon execution of the AstraZeneca Agreements; however, the revenue recognized in the statement of operations was limited to the non-contingent portion of the License Deliverable consideration in accordance with ASC 605-25. During the years ended December 31, 2015 and 2014, the Company recognized approximately $2.2 million and approximately $2.5 million, respectively, in collaborative arrangements revenue related to the License Deliverable in connection with the modification to the IDP and development budget in August 2014, as this portion of the Arrangement Consideration was no longer contingent. During the year ended December 31, 2013, the Company did not recognize any amounts in collaborative arrangements revenue related to the License Deliverable.

The Company also performs R&D Services and JDC services, and supplies clinical trial materials during the estimated development period. All Arrangement Consideration allocated to such services is being recognized as a reduction of research and development costs, using the proportional performance method, by which the amounts are recognized in proportion to the costs incurred. As a result of the cost-sharing arrangements under the collaboration, the Company recognized approximately $0.7 million, $2.4 million and $1.9 million in incremental research and development costs during the years ended December 31, 2015, 2014 and 2013, respectively. The amount allocated to the Co-Promotion Deliverable was recognized as collaborative arrangements revenue using the proportional performance method, which approximates recognition on a straight-line basis beginning on the date that the Company began to co-promote AstraZeneca's product through December 31, 2013 (the earliest cancellation date). As of December 31, 2013, the Company completed its obligation related to the Co-Promotion Deliverable; however, the revenue recognized in the statement of operations was limited to the non-contingent consideration in accordance with ASC 605-25. During the years ended December 31, 2015, 2014 and 2013, the Company recognized approximately $0.2 million, approximately $0.9 million and approximately $1.0 million, respectively, as collaborative arrangements revenue related to this deliverable, as such portions of the Arrangement Consideration were no longer contingent.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration, License and Co-promotion Agreements (Continued)

The Company reassesses the periods of performance for each deliverable at the end of each reporting period.

Milestone payments received from AstraZeneca upon the achievement of sales targets will be recognized as earned.

Co-Promotion Agreements

Co-promotion Agreement with Exact Sciences Corp. for Cologuard

In March 2015, the Company and Exact Sciences entered into an agreement to co-promote Exact Sciences' Cologuard, the first and only FDA-approved noninvasive stool DNA screening test for colorectal cancer (the "Exact Sciences Co-promotion Agreement"). Under the terms of the Exact Sciences Co-promotion Agreement, the Company's sales team is promoting and educating health care practitioners regarding Cologuard, with LINZESS remaining the Company's first-position product. The companies are also collaborating on medical education initiatives to support more in-depth understanding of Cologuard and the importance of colorectal cancer screening. Exact Sciences maintains responsibility for all other aspects of the commercialization of Cologuard outside of the co-promotion. Under the terms of the Exact Sciences Co-promotion Agreement, the Company is compensated via reimbursements for sales detailing, promotional support services and medical education initiatives. During the initial one-year term of the agreement, the Company could receive up to a maximum reimbursement of approximately $4.8 million. The Company also earns royalties on the net sales of Cologuard generated from the healthcare practitioners on whom the Company calls less the sales promotion reimbursement to the Company, such royalties being payable during the term and for one year following the termination of the Company's co-promotion efforts. There are no refund provisions in the Exact Sciences Co-promotion Agreement.

The non-exclusive Exact Sciences Co-promotion Agreement covers an initial one-year term, and renews automatically for successive one month periods unless and until terminated by either party. Either party may terminate the agreement in the event of an uncured material breach by the other party, withdrawal of Cologuard from the U.S. market, restriction on the indications for Cologuard by the FDA, imposition of restrictive federal or state price controls, change of control of the other party, or bankruptcy or insolvency of the other party.

Activities under the Exact Sciences Co-promotion Agreement were evaluated in accordance with ASC 605-25, to determine if they represented a multiple element revenue arrangement. The Company identified the following deliverables in the Exact Sciences Co-promotion Agreement: (i) second position sales detailing, (ii) promotional support services, and (iii) medical education services. Each of the deliverables was deemed to have standalone value based on their nature and all deliverables met the criteria to be accounted for as separate units of accounting under ASC 605-25. The Company determined that the BESP for each of the three deliverables approximated the value allocated to the deliverables under the agreement. The revenue related to each deliverable is recognized as collaborative arrangements revenue in the Company's consolidated statement of operations, in accordance with ASC 605-25, during the period earned. During the year ended December 31, 2015, the Company recognized approximately $4.4 million as collaborative arrangements revenue related to this arrangement.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration, License and Co-promotion Agreements (Continued)

Co-promotion Agreement with Allergan for VIBERZI

In August 2015, the Company and Allergan entered into an agreement for the co-promotion of VIBERZI in the U.S., Allergan's treatment for adults suffering from IBS-D (the "VIBERZI Co-promotion Agreement"). Under the terms of the VIBERZI Co-promotion Agreement, the Company's clinical sales specialists are detailing VIBERZI to the approximately 25,000 health care practitioners to whom they detail LINZESS. Allergan is responsible for all costs and activities relating to the commercialization of VIBERZI outside of the co-promotion.

Under the terms of the VIBERZI Co-promotion Agreement, the Company's promotional efforts are compensated based on the volume of calls delivered by the Company's sales force, with the terms of the agreement reducing or eliminating certain of the unfavorable adjustments to the Company's share of net profits stipulated by the linaclotide collaboration agreement with Allergan for North America, provided that the Company provides a minimum number of VIBERZI calls on physicians. The Company has the potential to achieve milestone payments of up to $10.0 million based on the net sales of VIBERZI in each of 2017 and 2018, and is also compensated via reimbursements for medical education initiatives.

The Company's promotional efforts under the non-exclusive co-promotion began when VIBERZI became commercially available in December 2015, and will continue until December 31, 2017, unless earlier terminated by either party pursuant to the provisions of the VIBERZI Co-promotion Agreement. Either party may also terminate the VIBERZI Co-promotion Agreement in the event of an uncured material breach by the other party, withdrawal of necessary approvals by the FDA, for convenience, or bankruptcy or insolvency of the other party. Allergan may terminate the VIBERZI Co-promotion Agreement if the Company does not provide the minimum number of calls on physicians for VIBERZI.

Activities under the VIBERZI Co-promotion Agreement were evaluated in accordance with ASC 605-25 to determine if they represented a multiple element revenue arrangement. The Company concluded that the VIBERZI Co-promotion Agreement does not represent a material modification to the linaclotide collaboration agreement with Allergan for North America, as it is not material to the total arrangement consideration under the collaboration agreement, does not significantly modify the existing deliverables, and does not significantly change the term of the agreement. The Company identified the following deliverables in the VIBERZI Co-promotion Agreement: (i) second position sales detailing of VIBERZI, and (ii) medical education services. Each of the deliverables was deemed to have standalone value based on their nature and both deliverables met the criteria to be accounted for as separate units of accounting under ASC 605-25. The Company determined the BESP for each of the deliverables approximated the value allocated to the deliverables under the agreement. As consideration is earned over the term of the agreement, the revenue will be allocated to each deliverable based on the relative selling price, using management's BESP, and recognized as collaborative arrangements revenue in the Company's consolidated statement of operations, in accordance with ASC 605-25, during the quarter earned. During the year ended December 31, 2015, in connection with the Company's VIBERZI co-promotion activities, the net profit share adjustments payable to Allergan under the linaclotide collaboration agreement for North America were reduced by approximately $2.9 million and were reflected as collaborative arrangements revenue under this agreement. During the year ended December 31, 2015, the Company also recognized approximately

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration, License and Co-promotion Agreements (Continued)

$0.2 million in revenue related to the VIBERZI Co-promotion Agreement for the performance of medical education services.

Other Collaboration and License Agreements

The Company has other collaboration and license agreements that are not individually significant to its business. In connection with entering into these agreements, the Company made aggregate up-front payments of approximately $5.8 million, which were expensed as research and development expense. Pursuant to the terms of one agreement, the Company may be required to pay $7.5 million for development milestones, of which, approximately $2.5 million had been paid as of December 31, 2015, and $18.0 million for regulatory milestones, none of which had been paid as of December 31, 2015. In addition, pursuant to the terms of another agreement, the contingent milestones could total up to $114.5 million per product to one of the Company's collaboration partners, including $21.5 million for development milestones, $58.0 million for regulatory milestones and $35.0 million for sales-based milestones. Further, under such agreements, the Company is also required to fund certain research activities and, if any product related to these collaborations is approved for marketing, to pay significant royalties on future sales. During the year ended December 31, 2015, the Company incurred an insignificant amount in research and development expense associated with the Company's other collaboration and license agreements. During the years ended December 31, 2014 and 2013, the Company incurred approximately $1.0 million, and approximately $3.6 million, respectively, in research and development expense associated with the Company's other collaboration and license agreements.

5. Fair Value of Financial Instruments

The tables below present information about the Company's assets that are measured at fair value on a recurring basis as of December 31, 2015 and 2014 and indicate the fair value hierarchy of the valuation techniques the Company utilized to determine such fair value. In general, fair values determined by Level 1 inputs utilize observable inputs such as quoted prices in active markets for identical assets or liabilities. Fair values determined by Level 2 inputs utilize data points that are either directly or indirectly observable, such as quoted prices, interest rates and yield curves. Fair values determined by Level 3 inputs utilize unobservable data points in which there is little or no market data, which require the Company to develop its own assumptions for the asset or liability.

The Company's investment portfolio includes mainly fixed income securities that do not always trade on a daily basis. As a result, the pricing services used by the Company apply other available information as applicable through processes such as benchmark yields, benchmarking of like securities, sector groupings and matrix pricing to prepare valuations. In addition, model processes are used to assess interest rate impact and develop prepayment scenarios. These models take into consideration relevant credit information, perceived market movements, sector news and economic events. The inputs into these models may include benchmark yields, reported trades, broker-dealer quotes, issuer spreads and other relevant data. The Company validates the prices provided by its third party pricing services by obtaining market values from other pricing sources and analyzing pricing data in certain instances.

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

5. Fair Value of Financial Instruments (Continued)

The following tables present the assets and liabilities the Company has measured at fair value on a recurring basis (in thousands):

		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)
Assets:				
Cash and cash equivalents:				
Money market funds	$ 254,903	$ 254,903	$	$
U.S. government-sponsored securities	3,340		3,340	
Available-for-sale securities:				
U.S. Treasury securities	50,091	50,091		
U.S. government-sponsored securities	128,016		128,016	
Convertible Note Hedges	86,466			86,466
Total assets	$ 522,816	$ 304,994	$ 131,356	$ 86,466
Liabilities:				
Note Hedge Warrants	$ 75,328	$	$	$ 75,328
Total liabilities	$ 75,328	$	$	$ 75,328

		Fair Value Measurements at Reporting Date Using		
	December 31, 2014	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Cash and cash equivalents:				
Money market funds	$ 60,966	$ 60,966	$	$
Available-for-sale securities:				
U.S. Treasury securities	24,005	24,005		
U.S. government-sponsored securities	150,032		150,032	
Total assets measured at fair value	$ 235,003	$ 84,971	$ 150,032	$

There were no transfers between fair value measurement levels during the years ended December 31, 2015 or 2014.

Cash equivalents, accounts receivable, related party accounts receivable, prepaid expenses and other current assets, accounts payable, related party accounts payable, accrued expenses and the current portion of capital lease obligations at December 31, 2015 and 2014 are carried at amounts that approximate fair value due to their short-term maturities.

The non-current portion of the capital lease obligations at December 31, 2015 and 2014 approximates fair value as it bears interest at a rate approximating a market interest rate.

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

5. Fair Value of Financial Instruments (Continued)

The Company's Convertible Note Hedges and the Note Hedge Warrants are recorded as derivative assets and liabilities, and are classified as Level 3 under the fair value hierarchy. These derivatives are not actively traded and are valued using the Black-Scholes option-pricing model which requires the use of subjective assumptions. Significant inputs used to determine the fair value as of December 31, 2015 included the price per share of the Company's Class A common stock, time to maturity of the derivative instruments, the strike prices of the derivative instruments, the risk-free interest rate, and the volatility of the Company's Class A common stock. The Company has not paid and does not anticipate paying cash dividends on its shares of common stock in the foreseeable future; therefore, the expected dividend yield is assumed to be zero. Changes to these inputs could materially affect the valuation of the Convertible Note Hedges and Note Hedge Warrants.

The following inputs were used in the fair market valuation of the Convertible Note Hedges and Note Hedge Warrants as of December 31, 2015:

	Convertible Note Hedges	Note Hedge Warrants
Risk-free interest rate[(1)]	2.0%	2.1%
Time to maturity	6.5	7.0
Stock price[(2)]	$ 11.59	$ 11.59
Strike price[(3)]	$ 16.58	$ 21.50
Common stock volatility[(4)]	45.0%	45.0%
Dividend yield	%	%

(1) Based on U.S. Treasury yield curve, with terms commensurate with the terms of the Convertible Note Hedges and the Note Hedge Warrants.

(2) The closing price of the Company's Class A common stock on the last trading day of the year ended December 31, 2015.

(3) As per the respective agreements for the Convertible Note Hedges and Note Hedge Warrants.

(4) Selected volatility based on historical volatility and implied volatility of the Company's Class A common stock.

The Convertible Note Hedges and the Note Hedge Warrants are recorded at fair value at each reporting period and changes in fair value are recorded in other expense, net within the Company's consolidated statements of operations. Gains and losses for these derivative financial instruments are presented separately in the Company's consolidated statements of cash flows.

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

5. Fair Value of Financial Instruments (Continued)

The following table reflects the change in the Company's Level 3 convertible note derivatives from their initial value at issuance through December 31, 2015 (in thousands):

	Convertible Note Hedges	Note Hedge Warrants
Balance at December 31, 2014	$	$
Issuance of Note Hedge Warrants		(70,849)
Purchase of Convertible Note Hedges	91,915	
Change in fair value, recorded as a component of loss on derivatives	(5,449)	(4,479)
Balance at December 31, 2015	$ 86,466	$ (75,328)

11% PhaRMA Notes

In January 2013, the Company closed a private placement of $175.0 million in aggregate principal amount of the PhaRMA Notes due on or before June 15, 2024. The estimated fair value of the PhaRMA Notes was approximately $166.8 million and approximately $182.5 million as of December 31, 2015 and December 31, 2014, respectively, and was determined using Level 3 inputs, including a quoted rate.

2.25% Convertible Senior Notes

In June 2015, the Company issued approximately $335.7 million of its 2022 Notes. The Company separately accounted for the liability and equity components of the 2022 Notes by allocating the proceeds between the liability component and equity component (Note 10). The fair value of the 2022 Notes, which differs from their carrying value, is influenced by interest rates, the price of the Company's Class A common stock and the volatility thereof, and the prices for the 2022 Notes observed in market trading, which are Level 2 inputs. The estimated fair value of the 2022 Notes as of December 31, 2015 was approximately $311.6 million.

6. Available-for-Sale Securities

The following tables summarize the available-for-sale securities held at December 31, 2015 and 2014 (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
December 31, 2015				
U.S. Treasury securities	$ 50,124	$	$ (33)	$ 50,091
U.S. government-sponsored securities	128,069	2	(55)	128,016
Total	$ 178,193	$ 2	$ (88)	$ 178,107

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

6. Available-for-Sale Securities (Continued)

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
December 31, 2014				
U.S. Treasury securities	$ 24,001	$ 4	$	$ 24,005
U.S. government-sponsored securities	150,055	2	(25)	150,032
Total	$ 174,056	$ 6	$ (25)	$ 174,037

The contractual maturities of all securities held at December 31, 2015 are one year or less. There were 32 and 27 available-for-sale securities in an unrealized loss position at December 31, 2015 and 2014, respectively, none of which had been in an unrealized loss position for more than twelve months. The aggregate fair value of these securities at December 31, 2015 and 2014 was approximately $167.6 million and approximately $101.9 million, respectively. The Company reviews its investments for other-than-temporary impairment whenever the fair value of an investment is less than amortized cost and evidence indicates that an investment's carrying amount is not recoverable within a reasonable period of time. To determine whether an impairment is other-than-temporary, the Company considers whether it has the ability and intent to hold the investment until a market price recovery and considers whether evidence indicating the cost of the investment is recoverable outweighs evidence to the contrary. The Company does not intend to sell the investments and it is not more likely than not that the Company will be required to sell the investments before recovery of their amortized cost bases, which may be maturity. The Company did not hold any securities with other-than-temporary impairment at December 31, 2015.

There were no sales of available-for-sale securities during the years ended December 31, 2015, 2014 and 2013. Net unrealized holding gains or losses for the period that have been included in accumulated other comprehensive income were not material to the Company's consolidated results of operations.

7. Inventory

Inventory consisted of the following (in thousands):

	December 31,	
	2015	2014
Raw materials	$	$ 4,954

Inventory represents linaclotide API that is available for commercial sale. The Company evaluates inventory levels quarterly and any inventory that has a cost basis in excess of its expected net realizable value, inventory that becomes obsolete, inventory in excess of expected sales requirements, inventory that fails to meet commercial sale specifications or is otherwise impaired is written down with a corresponding charge to the statement of operations in the period that the impairment is first identified.

The Company has entered into multiple commercial supply agreements for the purchase of linaclotide API. Two of the Company's API supply agreements for supplying API to its collaboration partners outside of North America contain minimum purchase commitments (Note 11). Prior to October 2015, the Company was also responsible for the manufacturing of linaclotide API for Europe.

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

7. Inventory (Continued)

As part of the Company's net realizable value assessment of its inventory, the Company assesses whether it has any excess non-cancelable purchase commitments resulting from its minimum supply agreements with its suppliers of linaclotide API.

The determination of the net realizable value of inventory and non-cancelable purchase commitments is based on demand forecasts from the Company's partners, that are received quarterly, to project the next 24 months of demand and the Company's internal forecast for projected demand in subsequent years. During the three months ended June 30, 2015, Almirall, the Company's former European partner, reduced its forecasted purchases of linaclotide API for its territory for the subsequent 18 months. In addition, recent regulatory changes made by the CFDA to the marketing approval process in China resulted in a potentially lengthened approval timeline for the commercialization of linaclotide. The reduced demand from Almirall and the potential extended timeline for commercialization of linaclotide in China resulted in lower projected sales of linaclotide API to the Company's partners in Europe and China. As a result, during the three months ended June 30, 2015, the Company wrote-down the balance of its inventory of approximately $5.0 million to zero and accrued approximately $3.2 million for excess non-cancelable inventory purchase commitments.

In October 2015, Almirall transferred its exclusive license to develop and commercialize linaclotide in Europe to Allergan, and the Company separately entered into an amendment to the license agreement with Allergan relating to the development and commercialization of linaclotide in Europe. Pursuant to the terms of the amendment, Allergan assumed responsibility for the manufacturing of linaclotide API for Europe, as well as the associated costs (Note 4). Upon the execution of the amendment to the license agreement, the Company recorded an incremental loss on non-cancelable API purchase commitments of approximately $6.9 million related to one of the Company's API supply agreements covering the commercial supply of linaclotide API for the European market. During the three months ended September 30, 2015, the Company also recorded an incremental loss on non-cancelable API purchase commitments related to in-process API batches. As of December 31, 2015, the Company has evaluated all remaining minimum purchase commitments under its linaclotide API supply agreements through 2023 (Note 11) and concluded that the approximately $22.3 million of purchase commitments from the second API supply agreement covering the Japan, China, Hong Kong and Macau markets are realizable based on the current forecasts received from the Company's partners in these territories and the Company's internal forecasts.

During the year ended December 31, 2014, the Company wrote-down approximately $20.3 million in inventory to an estimated net realizable value of approximately $5.0 million. This write-down was primarily attributable to Almirall's reduced inventory demand forecasts for the European territory, mainly due to the suspension of commercialization of CONSTELLA in Germany and a challenging commercial environment throughout Europe.

The write-downs of inventory to net realizable value and the loss on non-cancelable inventory purchase commitments are recorded as a separate line item in the Company's consolidated statement of operations. As of December 31, 2015, the accrual for excess purchase commitments is recorded as approximately $10.1 million in other liabilities in the Company's consolidated balance sheet.

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

8. Property and Equipment

Property and equipment, net consisted of the following (in thousands):

	December 31, 2015	December 31, 2014
Manufacturing equipment	$ 3,748	$ 3,623
Laboratory equipment	13,681	15,126
Computer and office equipment	3,596	5,185
Furniture and fixtures	2,062	2,093
Software	12,715	13,921
Construction in process	375	1,457
Leased vehicles	3,039	4,472
Leasehold improvements	38,465	36,928
	77,681	82,805
Less accumulated depreciation and amortization	(56,606)	(52,979)
	$ 21,075	$ 29,826

As of December 31, 2015 and 2014, substantially all of the Company's manufacturing equipment was located in the United Kingdom at one of the Company's contract manufacturers. All other property and equipment were located in the U.S. for the periods presented.

The Company has entered into capital leases for certain computers, vehicles and office equipment (Note 11). As of December 31, 2015 and 2014, the Company had approximately $3.8 million and approximately $5.5 million of assets under capital leases with accumulated amortization balances of approximately $1.3 million and approximately $2.0 million, respectively.

Depreciation and amortization expense of property and equipment, including amounts recorded under capital leases, was approximately $11.6 million, approximately $12.3 million and approximately $11.7 million for the years ended December 31, 2015, 2014 and 2013, respectively. In addition, the Company wrote-down approximately $0.5 million of leasehold improvement assets not utilized by the Company under the terms of its subleases during the year ended December 31, 2014.

9. Accrued Expenses

Accrued expenses consisted of the following (in thousands):

	December 31, 2015	December 31, 2014
Salaries and benefits	$ 19,582	$ 16,582
Professional fees	507	574
Accrued interest	1,103	850
Other	2,109	4,606
	$ 23,301	$ 22,612

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

10. Notes Payable

2.25% Convertible Senior Notes due 2022

In June 2015, the Company issued approximately $335.7 million aggregate principal amount of the 2022 Notes. The Company received net proceeds of approximately $324.0 million from the sale of the 2022 Notes, after deducting fees and expenses of approximately $11.7 million. The Company used approximately $21.1 million of the net proceeds from the sale of the 2022 Notes to pay the net cost of the Convertible Note Hedges (after such cost was partially offset by the proceeds to the Company from the sale of the Note Hedge Warrants), as described below.

The 2022 Notes are governed by an indenture (the "Indenture") between the Company and U.S. Bank National Association, as the trustee. The 2022 Notes are senior unsecured obligations and bear cash interest at the annual rate of 2.25%, payable on June 15 and December 15 of each year, which began on December 15, 2015. The 2022 Notes will mature on June 15, 2022, unless earlier converted or repurchased. The Company may settle conversions of the 2022 Notes through payment or delivery, as the case may be, of cash, shares of Class A common stock of the Company or a combination of cash and shares of Class A common stock, at the Company's option (subject to, and in accordance with, the settlement provisions of the Indenture). The initial conversion rate for the 2022 Notes is 60.3209 shares of Class A common stock (subject to adjustment as provided for in the Indenture) per $1,000 principal amount of the 2022 Notes, which is equal to an initial conversion price of approximately $16.58 per share and 20,249,665 shares. Holders of the 2022 Notes may convert their 2022 Notes at their option at any time prior to the close of business on the business day immediately preceding December 15, 2021 in multiples of $1,000 principal amount, only under the following circumstances:

- during any calendar quarter commencing after the calendar quarter ending on September 30, 2015 (and only during such calendar quarter), if the last reported sale price of the Company's Class A common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price for the 2022 Notes on each applicable trading day;

- during the five business day period after any five consecutive trading day period (the "measurement period") in which the "trading price" (as defined in the Indenture) per $1,000 principal amount of the 2022 Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of the Company's Class A common stock and the conversion rate for the 2022 Notes on each such trading day; or

- upon the occurrence of specified corporate events described in the Indenture.

On or after December 15, 2021, until the close of business on the second scheduled trading day immediately preceding June 15, 2022, holders may convert their 2022 Notes, in multiples of $1,000 principal amount, at the option of the holder regardless of the foregoing circumstances.

If a make-whole fundamental change, as described in the Indenture, occurs and a holder elects to convert its 2022 Notes in connection with such make-whole fundamental change, such holder may be entitled to an increase in the conversion rate as described in the Indenture. The Company may not redeem the 2022 Notes prior to the maturity date and no "sinking fund" is provided for by the 2022 Notes, which means that the Company is not required to periodically redeem or retire the 2022 Notes. Upon the occurrence of certain fundamental changes involving the Company, holders of the 2022 Notes may require the Company to repurchase for cash all or part of their 2022 Notes at a repurchase price

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

10. Notes Payable (Continued)

equal to 100% of the principal amount of the 2022 Notes to be repurchased, plus accrued and unpaid interest.

The Indenture does not contain any financial covenants or restrict the Company's ability to repurchase the Company's securities, pay dividends or make restricted payments in the event of a transaction that substantially increases the Company's level of indebtedness. The Indenture provides for customary events of default. In the case of an event of default with respect to the 2022 Notes arising from specified events of bankruptcy or insolvency, all outstanding 2022 Notes will become due and payable immediately without further action or notice. If any other event of default with respect to the 2022 Notes under the Indenture occurs or is continuing, the trustee or holders of at least 25% in aggregate principal amount of the then outstanding 2022 Notes may declare the principal amount of the 2022 Notes to be immediately due and payable. Notwithstanding the foregoing, the Indenture provides that, upon the Company's election, and for up to 180 days, the sole remedy for an event of default relating to certain failures by the Company to comply with certain reporting covenants in the Indenture consists exclusively of the right to receive additional interest on the 2022 Notes.

In accordance with accounting guidance for debt with conversion and other options, the Company separately accounted for the liability and equity components of the 2022 Notes by allocating the proceeds between the liability component and the embedded conversion option, or equity component, due to the Company's ability to settle the 2022 Notes in cash, its Class A common stock, or a combination of cash and Class A common stock at the option of the Company. The carrying amount of the liability component was calculated by measuring the fair value of a similar liability that does not have an associated convertible feature. The allocation was performed in a manner that reflected the Company's non-convertible debt borrowing rate for similar debt. The equity component of the 2022 Notes was recognized as a debt discount and represents the difference between the gross proceeds from the issuance of the 2022 Notes and the fair value of the liability of the 2022 Notes on their respective dates of issuance. The excess of the principal amount of the liability component over its carrying amount, or debt discount, is amortized to interest expense using the effective interest method over seven years, or the life of the 2022 Notes. The equity component is not remeasured as long as it continues to meet the conditions for equity classification.

The Company's outstanding Convertible Note balances as of December 31, 2015 consisted of the following (in thousands):

Principal	$	335,699
Less: unamortized debt discount		(107,636)
Less: unamortized debt issuance costs		(7,443)
Net carrying amount	$	220,620
Equity component	$	114,199

In connection with the issuance of the 2022 Notes, the Company incurred approximately $11.7 million of debt issuance costs, which primarily consisted of initial purchasers' discounts and legal and other professional fees. The Company allocated these costs to the liability and equity components based on the allocation of the proceeds. The portion of these costs allocated to the equity components totaling approximately $4.0 million were recorded as a reduction to additional paid-in capital. The portion of these costs allocated to the liability components totaling approximately $7.7 million were

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

10. Notes Payable (Continued)

recorded as a reduction in the carrying value of the debt on the balance sheet and are amortized to interest expense using the effective interest method over the expected life of the 2022 Notes.

The Company determined the expected life of the 2022 Notes was equal to their seven-year term. The effective interest rate on the liability components of the 2022 Notes for the period from the date of issuance through December 31, 2015 was 9.34%. The following table sets forth total interest expense recognized related to the 2022 Notes during the year ended December 31, 2015 (in thousands):

Contractual interest expense	$	4,069
Amortization of debt issuance costs		305
Amortization of debt discount		6,563
Total interest expense	$	10,937

Future minimum payments under the 2022 Notes as of December 31, 2015, are as follows (in thousands):

2016	$	7,553
2017		7,553
2018		7,553
2019		7,553
2020		7,553
Thereafter		347,030
Total future minimum payments under the 2022 Notes		384,795
Less: amounts representing interest		(49,096)
Less: unamortized debt discount		(107,636)
Less: unamortized debt issuance costs		(7,443)
Convertible senior notes balance	$	220,620

Convertible Note Hedge and Warrant Transactions with Respect to 2022 Notes

To minimize the impact of potential dilution to the Company's Class A common stockholders upon conversion of the 2022 Notes, the Company entered into the Convertible Note Hedges covering 20,249,665 shares of the Company's Class A common stock in connection with the issuance of the 2022 Notes. The Convertible Note Hedges have an exercise price of approximately $16.58 per share and are exercisable when and if the 2022 Notes are converted. If upon conversion of the 2022 Notes, the price of the Company's Class A common stock is above the exercise price of the Convertible Note Hedges, the counterparties are obligated to deliver shares of the Company's Class A common stock and/or cash with an aggregate value approximately equal to the difference between the price of the Company's Class A common stock at the conversion date and the exercise price, multiplied by the number of shares of the Company's Class A common stock related to the Convertible Note Hedge being exercised.

Concurrently with entering into the Convertible Note Hedges, the Company also sold Note Hedge Warrants to the Convertible Note Hedge counterparties to acquire 20,249,665 shares of the Company's Class A common stock, subject to customary anti-dilution adjustments. The strike price of the Note

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

10. Notes Payable (Continued)

Hedge Warrants is initially $21.50 per share, subject to adjustment, and such warrants are exercisable over the 150 trading day period beginning on September 15, 2022. The Note Hedge Warrants could have a dilutive effect on the Class A common stock to the extent that the market price per share of the Company's Class A common stock exceeds the applicable strike price of such warrants.

The Convertible Note Hedges and the Note Hedge Warrants are separate transactions entered into by the Company and are not part of the terms of the 2022 Notes. Holders of the 2022 Notes and the Note Hedge Warrants do not have any rights with respect to the Convertible Note Hedges. The Company paid approximately $91.9 million for the Convertible Note Hedges and recorded this amount as a long-term asset on the consolidated balance sheet. The Company received approximately $70.8 million for the Note Hedge Warrants and recorded this amount as a long-term liability, resulting in a net cost to the Company of approximately $21.1 million. The Convertible Note Hedges and Note Hedge Warrants are accounted for as derivative assets and liabilities, respectively, in accordance with ASC 815 (Note 5).

11% PhaRMA Notes due 2024

In January 2013, the Company closed a private placement of $175.0 million in aggregate principal amount of notes due on or before June 15, 2024. The PhaRMA Notes bear an annual interest rate of 11%, with interest payable March 15, June 15, September 15 and December 15 of each year (each a "Payment Date") which began on June 15, 2013. On March 15, 2014, the Company began making quarterly payments on the PhaRMA Notes equal to the greater of (i) 7.5% of net sales of LINZESS in the U.S. for the preceding quarter (the "Synthetic Royalty Amount") and (ii) accrued and unpaid interest on the PhaRMA Notes (the "Required Interest Amount"). Principal on the PhaRMA Notes will be repaid in an amount equal to the Synthetic Royalty Amount minus the Required Interest Amount, when this is a positive number, until the principal has been paid in full. Given the principal payments on the PhaRMA Notes are based on the Synthetic Royalty Amount, which will vary from quarter to quarter, the PhaRMA Notes may be repaid prior to June 15, 2024, the final legal maturity date. The Company made principal payments of approximately $13.9 million through December 31, 2015, and expects to pay approximately $25.0 million of the principal within twelve months following December 31, 2015.

The PhaRMA Notes are secured solely by a security interest in a segregated bank account established to receive the required quarterly payments. Up to the amount of the required quarterly payments under the PhaRMA Notes, Allergan will deposit its quarterly profit (loss) sharing payments due to the Company under the collaboration agreement for North America, if any, into the segregated bank account. If the funds deposited by Allergan into the segregated bank account are insufficient to make a required payment of interest or principal on a particular Payment Date, the Company is obligated to deposit such shortfall out of the Company's general funds into the segregated bank account.

The PhaRMA Notes may be redeemed at any time prior to maturity, in whole or in part, at the option of the Company. The Company will pay a redemption price equal to the percentage of outstanding principal balance of the PhaRMA Notes being redeemed specified below for the period in

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

10. Notes Payable (Continued)

which the redemption occurs (plus the accrued and unpaid interest to the redemption date on the PhaRMA Notes being redeemed):

Payment Dates	Redemption Percentage
From and including January 1, 2015 to and including December 31, 2015	105.50%
From and including January 1, 2016 to and including December 31, 2016	102.75%
From and including January 1, 2017 and thereafter	100.00%

The PhaRMA Notes contain certain covenants related to the Company's obligations with respect to the commercialization of LINZESS and the related collaboration agreement with Allergan for North America, as well as certain customary covenants, including covenants that limit or restrict the Company's ability to incur certain liens, merge or consolidate or make dispositions of assets. The PhaRMA Notes also specify a number of events of default (some of which are subject to applicable cure periods), including, among other things, covenant defaults, other non-payment defaults, and bankruptcy and insolvency defaults. Upon the occurrence of an event of default, subject to cure periods in certain circumstances, all amounts outstanding may become immediately due and payable.

The upfront cash proceeds of $175.0 million, less a discount of approximately $0.4 million for payment of legal fees incurred on behalf of the noteholders, were recorded as notes payable at issuance. The Company also capitalized approximately $7.3 million of debt issuance costs in connection with the PhaRMA Notes. During the three months ended June 30, 2015, the Company early adopted ASU 2015-03, which requires debt issuance costs to be presented in an entity's balance sheet as a direct deduction from the associated debt liability (Note 2). The Company's adoption of ASU 2015-03 resulted in a balance sheet reclassification of issuance costs in connection with the PhaRMA Notes of approximately $1.4 million of prepaid expenses and other current assets and approximately $2.8 million of other assets to a reduction in PhaRMA Notes payable as of December 31, 2014. The PhaRMA Notes issuance costs and discount are being amortized over the estimated term of the obligation using the effective interest method. The repayment provisions represent embedded derivatives that are clearly and closely related to the PhaRMA Notes and as such do not require separate accounting treatment.

The accounting for the PhaRMA Notes requires the Company to make certain estimates and assumptions about the future net sales of LINZESS in the U.S. LINZESS has been marketed since December 2012 and the estimates of the magnitude and timing of LINZESS net sales are subject to variability and significant uncertainty. These estimates and assumptions are likely to change, which may result in future adjustments to the portion of the PhaRMA Notes that is classified as a current liability, the amortization of debt issuance costs and discounts as well as the accretion of the interest expense. Any such adjustments could be material to the Company's consolidated financial statements.

11. Commitments and Contingencies

Lease Commitments

The Company leases its facility, offsite data storage location, vehicles and various equipment under leases that expire at varying dates through 2018. Certain of these leases contain renewal options, and require the Company to pay operating costs, including property taxes, insurance, maintenance and other operating expenses.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

11. Commitments and Contingencies (Continued)

As of December 31, 2015, the Company rents office and laboratory space at its corporate headquarters in Cambridge, Massachusetts under a non-cancelable operating lease, entered into in January 2007, as amended ("2007 Lease Agreement"). The 2007 Lease Agreement contains various provisions for renewal at the Company's option and, in certain cases, free rent periods and rent escalation tied to the Consumer Price Index. The rent expense, inclusive of the escalating rent payments and free rent periods, is recognized on a straight-line basis over the lease term through January 2018. The Company maintains a letter of credit securing its obligations under the lease agreement of approximately $7.6 million, which is recorded as restricted cash. In addition to rents due under this lease, the Company is obligated to pay facilities charges, including utilities and taxes. In connection with the 2007 Lease Agreement, the Company was provided allowances totaling approximately $22.9 million as reimbursement for financing capital improvements to the facility. The reimbursement amount is recorded as deferred rent on the consolidated balance sheets and is being amortized as a reduction to rent expense over the lease term, as applicable.

During the three months ended September 30, 2014, the Company entered into arrangements, with the landlord's consent, to sublease a portion of its Cambridge, Massachusetts corporate headquarters as it did not intend to use the space for its operations. Under the first sublease, the Company's operating lease obligations through 2018 are partially offset by future sublease payments to it of approximately $16.1 million (of which approximately $5.0 million has been received through December 31, 2015) and under the second sublease, the Company's operating lease obligations through 2016 are partially offset by future sublease payments to it of approximately $1.9 million (of which approximately $1.1 million has been received through December 31, 2015). During the year ended December 31, 2014, the Company recorded aggregate charges of approximately $2.6 million, which represent its obligations to the landlord associated with the sublet space, net of sublease income due to the Company under the subleases, and a partial write-down of leasehold improvement assets not utilized by the Company under the terms of the subleases.

In 2013, the Company entered into 36-month capital leases (the "2013 Vehicle Leases") for the vehicle fleet for its field-based sales force and medical science liaisons. The 2013 Vehicle Leases expire at various times through September 2016. In accordance with the terms of 2013 Vehicle Leases, the Company maintains a letter of credit securing its obligations under the lease agreements of $0.5 million, which is recorded as restricted cash.

In November 2015, the Company entered into 12-month capital leases (the "2015 Vehicle Leases") for certain vehicles within its vehicle fleet for its field-based sales force and medical science liaisons. The 2015 Vehicle Leases expire at varying times beginning in November 2016. In accordance with the terms of the 2015 Vehicle Leases, the Company maintains a letter of credit securing its obligations under the lease agreements of $0.6 million, which is recorded as restricted cash. In connection with entering into the 2015 Vehicle Leases, certain of the 2013 Vehicle Leases were terminated as of December 31, 2015. At December 31, 2015, the weighted average interest rate on the outstanding 2015 Vehicle Lease obligations was approximately 3.3% and the weighted average interest rate on the outstanding 2013 Vehicle Lease obligations was approximately 7.7%.

The Company has also entered into capital leases for certain computer and office equipment. These capital leases expire in April 2018. At December 31, 2015, the weighted average interest rate on the outstanding capital lease obligations was approximately 14.5%.

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

11. Commitments and Contingencies (Continued)

At December 31, 2015, future minimum lease payments under all non-cancelable lease arrangements were as follows (in thousands):

	Operating Lease Payments	Lease Payments to be Received from Subleases	Net Operating Lease Payments	Capital Lease Payments
2016	$ 15,617	$ (5,740)	$ 9,878	$ 2,756
2017	16,170	(5,665)	10,505	253
2018	635	(476)	159	85
Total future minimum lease payments	$ 32,422	$ (11,881)	$ 20,542	$ 3,094
Less: amounts representing interest				(157)
Capital lease obligations at December 31, 2015				2,937
Less: current portion of capital lease obligations				(2,631)
Capital lease Obligations, net of current portion				$ 306

Rental expense, net of sublease income of approximately $5.3 million and approximately $2.6 million, under the operating leases amounted to approximately $6.3 million and approximately $10.2 million for the years ended December 31, 2015 and 2014, respectively. Rental expense amounted to approximately $8.8 million for the year ended December 31, 2013.

Commercial Supply Commitments

The Company has entered into multiple commercial supply agreements for the purchase of linaclotide finished drug product and API. Two of the Company's API supply agreements for supplying API to its collaboration partners outside of North America contain minimum purchase commitments. In July 2015 and August 2015, the Company entered into amendments to its agreements with two of its suppliers of linaclotide API. One amendment reduced the Company's non-cancelable purchase commitments and the other increased the Company's non-cancelable purchase commitments, but extended the timeframe over which the Company must purchase the API. The amended contracts include total non-cancelable commercial supply purchase obligations of approximately $34.9 million through 2023.

During the year ended December 31, 2015, the Company recognized approximately $10.1 million as an accrual for excess purchases commitments that is recorded in other liabilities in the Company's consolidated balance sheet (Note 7). Payments under these accrued excess purchase commitments begin in 2017, and are approximately $2.5 million in each of the years 2017, 2018, 2019 and 2020. As of December 31, 2015, the Company's unrecognized minimum purchase requirements and other firm

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

11. Commitments and Contingencies (Continued)

commitments related to the supply contracts associated with the territories not covered by the partnerships with Allergan for North America were as follows (in thousands):

2016	$	2,259
2017		2,259
2018		2,322
2019		3,096
2020		3,096
Thereafter		9,288
Total unrecognized minimum purchase requirements	$	22,320

In addition, the Company and Allergan are jointly obligated to make minimum purchases of linaclotide API for the territories covered by the Company's collaboration with Allergan for North America. Currently, Allergan fulfills all such minimum purchase commitments and, as a result, they are excluded from the amounts above.

Commitments Related to the Collaboration and License Agreements

Under the collaborative agreements with Allergan for North America and AstraZeneca for China, Hong Kong and Macau, respectively, the Company shares with Allergan and AstraZeneca all development and commercialization costs related to linaclotide in the U.S. and for China, Hong Kong and Macau, respectively. The actual amounts that the Company pays its partners or that partners pay to the Company will depend on numerous factors outside of the Company's control, including the success of certain clinical development efforts with respect to linaclotide, the content and timing of decisions made by the regulators, the reimbursement and competitive landscape around linaclotide and the Company's other product candidates, and other factors.

In addition, the Company has commitments to make potential future milestone payments to third parties under certain of its license and collaboration arrangements. These milestones primarily include the commencement and results of clinical trials, obtaining regulatory approval in various jurisdictions and the future commercial success of development programs, the outcome and timing of which are difficult to predict and subject to significant uncertainty. In addition to the milestones discussed above, the Company is obligated to pay royalties on future sales, which are contingent on generating levels of sales of future products that have not been achieved and may never be achieved.

These agreements are more fully described in Note 4, *Collaboration, License and Co-promotion Agreements*, to these consolidated financial statements.

Other Funding Commitments

As of December 31, 2015, the Company has several on-going studies in various clinical trial stages. The Company's most significant clinical trial expenditures are to contract research organizations ("CRO"). The contracts with CROs generally are cancellable, with notice, at the Company's option and do not have any significant cancellation penalties.

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

11. Commitments and Contingencies (Continued)

Guarantees

As permitted under Delaware law, the Company indemnifies its officers and directors for certain events or occurrences while the officer or director is, or was, serving at the Company's request in such capacity. The maximum potential amount of future payments the Company could be required to make is unlimited; however, the Company has directors' and officers' insurance coverage that is intended to limit its exposure and enable it to recover a portion of any future amounts paid.

The Company enters into certain agreements with other parties in the ordinary course of business that contain indemnification provisions. These typically include agreements with directors and officers, business partners, contractors, landlords, clinical sites and customers. Under these provisions, the Company generally indemnifies and holds harmless the indemnified party for losses suffered or incurred by the indemnified party as a result of the Company's activities. These indemnification provisions generally survive termination of the underlying agreements. The maximum potential amount of future payments the Company could be required to make under these indemnification provisions is unlimited. However, to date the Company has not incurred material costs to defend lawsuits or settle claims related to these indemnification provisions. As a result, the estimated fair value of these obligations is minimal. Accordingly, the Company had no liabilities recorded for these obligations as of December 31, 2015 and 2014.

Litigation

From time to time, the Company is involved in various legal proceedings and claims, either asserted or unasserted, which arise in the ordinary course of business. While the outcome of these other claims cannot be predicted with certainty, management does not believe that the outcome of any of these ongoing legal matters, individually and in aggregate, will have a material adverse effect on the Company's consolidated financial statements.

12. Stockholders' Equity

Preferred Stock

The Company's preferred stock may be issued from time to time in one or more series, with each such series to consist of such number of shares and to have such terms as adopted by the board of directors. Authority is given to the board of directors to determine and fix such voting powers, full or limited, or no voting powers, and such designations, preferences and relative participating, optional or other special rights, and qualifications, limitation or restrictions thereof, including without limitation, dividend rights, conversion rights, redemption privileges and liquidation preferences.

Common Stock

The Company has designated two series of common stock, Series A common stock ("Class A Common Stock") and Series B common stock ("Class B Common Stock"). All shares of common stock that were outstanding immediately prior to August 2008 were converted into shares of Class B Common Stock. The holders of Class A Common Stock and Class B Common Stock vote together as a single class. Class A Common Stock is entitled to one vote per share. Class B Common Stock is also entitled to one vote per share with the following exceptions: (1) after the completion of an initial public offering ("IPO") of the Company's stock, the holders of the Class B Common Stock are entitled to ten

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

12. Stockholders' Equity (Continued)

votes per share if the matter is an adoption of an agreement of merger or consolidation, an adoption of a resolution with respect to the sale, lease, or exchange of the Company's assets or an adoption of dissolution or liquidation of the Company, and (2) Class B common stockholders are entitled to ten votes per share on any matter if any individual, entity, or group seeks to obtain or has obtained beneficial ownership of 30% or more of the Company's outstanding shares of common stock. Class B Common Stock can be sold at any time and irrevocably converts to Class A Common Stock, on a one-for-one basis, upon sale or transfer. The Class B Common Stock is also entitled to a separate class vote for the issuance of additional shares of Class B Common Stock (except pursuant to dividends, splits or convertible securities), or any amendment, alteration or repeal of any provision of the Company's charter. All Class B Common Stock will automatically convert into Class A Common Stock upon the earliest of:

- the later of (1) the first date on which the number of shares of Class B Common Stock then outstanding is less than 19,561,556 which represents 25% of the number of shares of Class B Common Stock outstanding immediately following the completion of the Company's IPO or (2) December 31, 2018;

- December 31, 2038; or

- a date agreed to in writing by a majority of the holders of the Class B Common Stock.

The Company has reserved such number of shares of Class A Common Stock as there are outstanding shares of Class B Common Stock solely for the purpose of effecting the conversion of the Class B Common Stock.

The holders of shares of Class A Common Stock and Class B Common Stock are entitled to dividends if and when declared by the board of directors. In the event that dividends are paid in the form of common stock or rights to acquire common stock, the holders of shares of Class A Common Stock shall receive Class A Common Stock or rights to acquire Class A Common Stock and the holders of shares of Class B Common Stock shall receive Class B Common Stock or rights to acquire Class B Common Stock, as applicable.

In the event of a voluntary or involuntary liquidation, dissolution, distribution of assets, or winding up of the Company, the holders of shares of Class A Common Stock and the holders of shares of Class B Common Stock are entitled to share equally, on a per share basis, in all assets of the Company of whatever kind available for distribution to the holders of common stock.

The Company has reserved, out of its authorized but unissued shares of Class A Common Stock, sufficient shares to affect the conversion of the 2022 Notes and the Note Hedge Warrants, pursuant to the terms thereof (Note 10).

During the second quarter of 2013, the Company sold 11,204,948 shares of its Class A Common Stock through a firm commitment, underwritten public offering at a price to the public of $13.00 per share. As a result of this offering, the Company received aggregate net proceeds, after underwriting discounts and commissions and other offering expenses, of approximately $137.8 million.

In the first quarter of 2014, the Company sold 15,784,325 shares of its Class A Common Stock through a firm commitment, underwritten public offering at a price to the public of $12.75 per share. As a result of this offering, the Company received aggregate net proceeds, after underwriting discounts and commissions and other offering expenses, of approximately $190.4 million.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

13. Stock Benefit Plans

The following table summarizes the expense recognized for share-based compensation arrangements in the consolidated statements of operations (in thousands):

	Years Ended December 31,		
	2015	2014	2013
Employee stock options	$ 20,668	$ 19,373	$ 17,981
Restricted stock units	1,536		
Restricted stock awards	2,408	2,671	552
Non-employee stock options		2,618	271
Employee stock purchase plan	833	941	995
Workforce reduction		551	
Stock award	24	30	30
	$ 25,469	$ 26,184	$ 19,829

Share-based compensation is reflected in the consolidated statements of operations as follows for the years ended December 31, 2015, 2014 and 2013 (in thousands):

	Years Ended December 31,		
	2015	2014	2013
Research and development	$ 10,065	$ 9,482	$ 9,178
Selling, general and administrative	15,404	16,702	10,651
	$ 25,469	$ 26,184	$ 19,829

On November 4, 2014, the Company agreed to accelerate the vesting of all of a former executive officer's outstanding unvested stock options on the executive officer's departure date of December 31, 2014, and to allow the exercise of vested stock options for up to two years subsequent to the departure date, or until their expiration, whichever is earlier. These equity modifications resulted in an incremental charge of approximately $2.3 million, which was recorded within selling, general and administrative expenses during the year ended December 31, 2014.

Stock Benefit Plans

The Company has two share-based compensation plans pursuant to which awards are currently being made: the Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan ("2010 Equity Plan") and the Amended and Restated 2010 Employee Stock Purchase Plan ("2010 Purchase Plan"). The Company also has two share-based compensation plans under which there are outstanding awards, but from which no further awards will be made: the Amended and Restated 2005 Stock Incentive Plan ("2005 Equity Plan") and the Amended and Restated 2002 Stock Incentive Plan ("2002 Equity Plan"). At December 31, 2015, there were 13,486,020 shares available for future grant under all such plans.

2010 Equity Plan

During 2010, the Company's stockholders approved the 2010 Equity Plan under which stock options, restricted stock awards, RSUs, and other stock-based awards may be granted to employees,

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

13. Stock Benefit Plans (Continued)

officers, directors, or consultants of the Company. There were 6,000,000 shares of common stock initially reserved for issuance under the 2010 Equity Plan. The number of shares available for future grant may be increased on the first day of each fiscal year by an amount equal to the lesser of: (i) 6,600,000; (ii) 4% of the number of outstanding shares of common stock on the first day of each fiscal year; and (iii) an amount determined by the board of directors. Awards that are returned to the Company's other equity plans as a result of their expiration, cancellation, termination or repurchase are automatically made available for issuance under the 2010 Equity Plan. At December 31, 2015, there were 11,410,963 shares available for future grant under the 2010 Equity Plan.

2010 Purchase Plan

During 2010, the Company's stockholders approved the 2010 Purchase Plan, which gives eligible employees the right to purchase shares of common stock at the lower of 85% of the fair market value on the first or last day of an offering period. Each offering period is six months. There were 400,000 shares of common stock initially reserved for issuance pursuant to the 2010 Purchase Plan. The number of shares available for future grant under the 2010 Purchase Plan may be increased on the first day of each fiscal year by an amount equal to the lesser of: (i) 1,000,000 shares, (ii) 1% of the Class A shares of common stock outstanding on the last day of the immediately preceding fiscal year, or (iii) such lesser number of shares as is determined by the board of directors. At December 31, 2015, there were 2,075,057 shares available for future grant under the 2010 Purchase Plan.

2005 Equity Plan and 2002 Equity Plan

The 2005 Equity Plan and 2002 Equity Plan provided for the granting of stock options, restricted stock awards, RSUs, and other share-based awards to employees, officers, directors, consultants, or advisors of the Company. At December 31, 2015, there were no shares available for future grant under the 2005 Equity Plan or the 2002 Equity Plan.

Restricted Stock Awards

In 2015, the Company granted an aggregate of 151,604 shares of Class A Common Stock to independent members of the board of directors under restricted stock agreements in accordance with the terms of the 2010 Equity Plan and the Company's director compensation plan, effective in January 2014. These shares of restricted stock vest ratably over the period of service from the Company's 2015 annual meeting of stockholders through the Company's 2016 annual meeting of stockholders, provided the individual continues to serve on the Company's board of directors through each vest date.

In 2014, the Company granted an aggregate of 288,606 shares of common stock to independent members of the board of directors under restricted stock agreements in accordance with the terms of the 2010 Equity Plan and the Company's director compensation plan, effective in January 2014. These shares of restricted stock vested ratably over the period of service from January 2014 through the Company's 2015 annual meeting of stockholders, provided the individual continued to serve on the Company's board of directors through each vest date.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

13. Stock Benefit Plans (Continued)

A summary of the unvested shares of restricted stock as of December 31, 2015 is presented below:

	Number of Shares	Weighted-Average Grant Date Fair Value
Unvested as of December 31, 2014	98,890	$ 13.77
Granted	151,604	$ 14.16
Vested	(175,992)	$ 13.95
Forfeited		$
Unvested as of December 31, 2015	74,502	$ 14.14

Restricted Stock Units

In 2015, the Company began utilizing RSUs, in addition to stock options as part of the equity compensation it provides to its employees, each RSU representing the right to receive one share of the Company's Class A Common Stock pursuant to the terms of the applicable award agreement and granted pursuant to the terms of the Company's 2010 Equity Plan. The RSUs generally vest 25% per year on the approximate anniversary of the date of grant until fully vested, provided the employee remains continuously employed with the Company through each vesting date. Shares of the Company's Class A Common Stock are delivered to the employee upon vesting, subject to payment of applicable withholding taxes. The fair value of all RSUs is based on the market value of the Company's Class A Common Stock on the date of grant. Compensation expense, including the effect of estimated forfeitures, is recognized over the applicable service period.

A summary of RSU activity for the year ended December 31, 2015 is as follows:

	Number of Shares	Weighted-Average Grant Date Fair Value
Unvested as of December 31, 2014		$
Granted	936,414	$ 13.44
Vested		$
Forfeited	(36,363)	$ 15.46
Unvested as of December 31, 2015	900,051	$ 13.36

Stock Options

Stock options granted under the Company's equity plans generally have a ten-year term and vest over a period of four years, provided the individual continues to serve at the Company through the vesting dates. Options granted under all equity plans are exercisable at a price per share not less than the fair market value of the underlying common stock on the date of grant. The estimated fair value of options, including the effect of estimated forfeitures, is recognized over the requisite service period, which is typically the vesting period of each option.

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

13. Stock Benefit Plans (Continued)

The weighted average assumptions used to estimate the fair value of the stock options using the Black-Scholes option-pricing model were as follows for the years ended December 31, 2015, 2014 and 2013:

	Years Ended December 31,		
	2015	2014	2013
Expected volatility	46.1%	46.8%	46.3%
Expected term (in years)	6.04	6.10	6.50
Risk-free interest rate	1.7%	1.8%	1.6%
Expected dividend yield	%	%	%

Prior to February 3, 2010, the Company was not publicly traded and therefore had no trading history. Therefore, the Company has been using a blended volatility rate that blends its own historical volatility with that of comparable public companies. For purposes of identifying comparable companies, the Company selected publicly-traded companies that are in the biopharmaceutical industry, have products or product candidates in similar therapeutic areas and stages of nonclinical and clinical development, have sufficient trading history to derive a historic volatility rate and have similar vesting terms as the Company's options. Beginning in 2014, the Company estimates the expected term using historical data. The risk-free interest rate used for each grant is based on a zero-coupon U.S. Treasury instrument with a remaining term similar to the expected term of the share-based award. The Company has not paid and does not anticipate paying cash dividends on its shares of common stock in the foreseeable future; therefore, the expected dividend yield is assumed to be zero.

The weighted-average grant date fair value per share of options granted during the years ended December 31, 2015, 2014 and 2013 was $6.73, $6.47 and $5.96, respectively.

The Company's Class B Common Stock is issuable upon exercise of options granted prior to the closing of the Company's IPO under the 2002 Equity Plan and the 2005 Equity Plan, and its Class A Common Stock is issuable upon exercise of all options granted after the closing of the Company's IPO under the Company's equity plans. At December 31, 2015, options exercisable into 4,554,128 shares of Class B Common Stock and 16,012,732 shares of Class A Common Stock were outstanding.

Subject to approval by the board of directors, option grantees under the 2002 Equity Plan and the 2005 Equity Plan may have the right to exercise an option prior to vesting. The exercise of these shares is not substantive and as a result, the cash paid for the exercise prices is considered a deposit or prepayment of the exercise price and is recorded as a liability. Amounts received upon the exercise of these shares were not material to the consolidated financial statements at December 31, 2015 and 2014.

The Company, from time to time, issues certain time-accelerated stock options to certain employees. The vesting of these options accelerates upon the achievement of certain performance-based milestones. If these criteria are not met, such options will vest between six and ten years after the date of grant. During the year ended December 31, 2015, no shares vested as a result of milestone or service period achievements. At December 31, 2015 and 2014, there were 400,000 shares issuable under unvested time-accelerated options. When achievement of the milestone is not deemed probable, the Company recognizes compensation expense associated with time-accelerated stock options initially over the vesting period of the respective stock option. When deemed probable of achievement, the Company expenses the remaining unrecognized compensation over the implicit service period. The

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

13. Stock Benefit Plans (Continued)

Company recorded share-based compensation related to these time-accelerated options of an insignificant amount, $1.2 million, and an insignificant amount during the years ended December 31, 2015, 2014 and 2013, respectively.

The Company also grants to certain employees performance-based options to purchase shares of common stock. These options are subject to performance-based milestone vesting. During the year ended December 31, 2015, no shares vested as a result of performance milestone achievements. The Company recorded share-based compensation related to these performance-based options of approximately $0.2 million, approximately $0.5 million, and an insignificant amount, respectively, during the years ended December 31, 2015, 2014 and 2013.

The following table summarizes stock option activity under the Company's share-based compensation plans, including performance-based options:

	Shares of Common Stock Attributable to Options	Weighted-Average Exercise Price	Weighted-Average Contractual Life (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2014	19,957,773	$ 10.07	6.00	$ 104,897
Granted	3,518,950	$ 14.69		
Exercised	(2,005,330)	$ 5.49		
Cancelled	(904,533)	$ 13.13		
Outstanding at December 31, 2015	20,566,860	$ 11.18	5.90	$ 38,279
Vested or expected to vest at December 31, 2015	19,137,709	$ 11.11	5.78	$ 36,239
Exercisable at December 31, 2015[1]	12,669,438	$ 10.35	4.82	$ 29,953

(1) All stock options granted under the 2002 Equity Plan and the 2005 Equity Plan contain provisions allowing for the early exercise of such options into restricted stock. The exercisable shares disclosed above represent those that were vested as of December 31, 2015.

The total intrinsic value of options exercised during the years ended December 31, 2015, 2014 and 2013 was approximately $17.7 million, $26.9 million and approximately $19.7 million, respectively. The intrinsic value was calculated as the difference between the fair value of the Company's common stock and the exercise price of the option issued.

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

13. Stock Benefit Plans (Continued)

The following table sets forth the Company's unrecognized share-based compensation expense, net of estimated forfeitures, as of December 31, 2015, by type of award and the weighted-average period over which that expense is expected to be recognized:

	Unrecognized Expense, Net of Estimated Forfeitures (in thousands)	Weighted-Average Remaining Recognition Period (in years)
Type of award:		
Stock options with time-based vesting	$ 31,254	2.60
Restricted stock awards	892	0.42
Restricted stock units	7,768	3.46
Time-accelerated stock options[(1)]	71	
Performance-based options[(1)]	3,655	

(1) The weighted-average remaining recognition period cannot be determined for performance-based or time-accelerated options due to the nature of such awards, as detailed above.

The total unrecognized share-based compensation cost will be adjusted for future changes in estimated forfeitures.

14. Income Taxes

In general, the Company has not recorded a provision for federal or state income taxes as it has had cumulative net operating losses since inception.

A reconciliation of income taxes computed using the U.S. federal statutory rate to that reflected in operations follows (in thousands):

	Years Ended December 31,		
	2015	2014	2013
Income tax benefit using U.S. federal statutory rate	$ (48,507)	$ (64,470)	$ (92,756)
Permanent differences	688	1,916	1,413
State income taxes, net of federal benefit	(4,826)	(5,632)	(13,684)
Stock-based compensation	3,824	3,584	3,830
Fair market valuation of Note Hedge Warrants and Convertible Note Hedges	3,711		
Tax credits	(1,987)	(2,652)	(5,089)
Expiring net operating losses and tax credits	194	3,590	
Effect of change in state tax rate on deferred tax assets and deferred tax liabilities	(627)	5,490	1,057
Change in the valuation allowance	47,587	58,185	105,186
Other	(57)	(11)	43
	$	$	$

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

14. Income Taxes (Continued)

Components of the Company's deferred tax assets and liabilities are as follows (in thousands):

	Years Ended December 31, 2015	2014
Deferred tax assets:		
Net operating loss carryforwards	$ 280,191	$ 279,123
Tax credit carryforwards	33,996	32,186
Capitalized research and development	30,064	6,826
Deferred revenue	3,360	4,220
Other	66,450	45,135
Total deferred tax assets	414,061	367,490
Deferred tax liabilities:		
Basis difference on 2022 Notes	(5,877)	
Total deferred tax liabilities	(5,877)	
Net deferred tax asset	408,184	367,490
Valuation allowance	(408,184)	(367,490)
Net deferred tax asset	$	$

Management of the Company has evaluated the positive and negative evidence bearing upon the realizability of its deferred tax assets. Management has considered the Company's history of operating losses and concluded, in accordance with the applicable accounting standards, that it is more likely than not that the Company may not realize the benefit of its deferred tax assets. Accordingly, the deferred tax assets have been fully reserved at December 31, 2015 and 2014. Management reevaluates the positive and negative evidence on a quarterly basis.

The valuation allowance increased approximately $40.7 million during the year ended December 31, 2015, due primarily to an increase in the Company's tax credit carryforwards, capitalized research and development expenses and share-based compensation expense. Additionally, the change in valuation allowance noted in the table above reflects the impact of a deferred tax liability being recorded through additional paid-in capital of approximately $6.9 million for the establishment of basis differences on the 2022 Notes. The valuation allowance increased approximately $58.7 million during the year ended December 31, 2014, due primarily to the increase in the net operating loss carryforwards and tax credits.

Subject to the limitations described below, at December 31, 2015 and 2014, the Company has net operating loss carryforwards of approximately $857.9 million and approximately $745.6 million, respectively, to offset future federal taxable income, which expire beginning in 2018 continuing through 2035. The federal net operating loss carryforwards exclude approximately $61.6 million of deductions related to the exercise of stock options. This amount represents an excess tax benefit and has not been included in the gross deferred tax asset reflected for net operating losses. This amount will be recorded as an increase in additional paid in capital on the consolidated balance sheet once the excess benefits are "realized" in accordance with ASC 718, *Compensation Stock Compensation* ("ASC 718"). As of December 31, 2015 and 2014, the Company had state net operating loss carryforwards of approximately $566.7 million and approximately $517.4 million, respectively, to offset future state taxable income, which have begun to expire and will continue to expire through 2035. The Company also had tax credit

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

14. Income Taxes (Continued)

carryforwards of approximately $37.1 million and approximately $35.1 million as of December 31, 2015 and 2014, respectively, to offset future federal and state income taxes, which expire at various times through 2035.

Utilization of net operating loss carryforwards and research and development credit carryforwards may be subject to a substantial annual limitation due to ownership change limitations that could occur in the future in accordance with Section 382 of the Internal Revenue Code of 1986 ("IRC Section 382") and with Section 383 of the Internal Revenue Code of 1986, as well as similar state provisions. These ownership changes may limit the amount of net operating loss carryforwards and research and development credit carryforwards that can be utilized annually to offset future taxable income and taxes, respectively. In general, an ownership change, as defined by IRC Section 382, results from transactions increasing the ownership of certain stockholders or public groups in the stock of a corporation by more than 50 percentage points over a three-year period. The Company has completed several financings since its inception which may result in a change in control as defined by IRC Section 382, or could result in a change in control in the future.

The following table summarizes the changes in the Company's unrecognized income tax benefits for the year ended December 31, 2015 (in thousands):

Balance at January 1, 2015	$	
Increases based on tax positions related to the current period		17,614
Increases for tax positions related to prior periods		10,174
Decreases for tax positions in prior periods		(10,174)
Decreases for statute of limitation expiration		
Decreases for settlement of tax audits		
Balance at December 31, 2015	$	17,614

The Company had gross unrecognized tax benefits of approximately $17.6 million as of December 31, 2015. The Company did not have any unrecognized tax benefits as of December 31, 2014 and 2013. Of the approximately $17.6 million of total unrecognized tax benefits at December 31, 2015, none of the unrecognized tax positions would, if recognized, affect the Company's effective tax rate, as this item only impacts the Company's deferred tax accounting.

The Company will recognize interest and penalties, if any, related to uncertain tax positions in income tax expense. As of December 31, 2015, 2014 and 2013, the Company had no accrued interest or penalties related to uncertain tax positions and no amounts have been recognized in the Company's consolidated statements of operations.

The statute of limitations for assessment by the Internal Revenue Service ("IRS") and state tax authorities is open for tax years ended December 31, 2014, 2013, and 2012, although carryforward attributes that were generated prior to tax year 2012 may still be adjusted upon examination by the IRS or state tax authorities if they either have been, or will be, used in a future period. There are currently no federal or state income tax audits in progress.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

15. Defined Contribution Plan

The Ironwood Pharmaceuticals, Inc. 401(k) Savings Plan is a defined contribution plan in the form of a qualified 401(k) plan in which substantially all employees are eligible to participate upon employment. Subject to certain IRS limits, eligible employees may elect to contribute from 1% to 100% of their compensation. Company contributions to the plan are at the sole discretion of the Company's board of directors. Currently, the Company provides a matching contribution of 75% of the employee's contributions, up to $6,000 annually. During the years ended December 31, 2015, 2014 and 2013, the Company recorded approximately $2.5 million, approximately $2.6 million, and approximately $2.8 million of expense related to its 401(k) company match, respectively.

16. Related Party Transactions

In September 2009, Allergan became a related party when the Company sold to Allergan 2,083,333 shares of the Company's convertible preferred stock. In November 2009, Almirall became a related party when the Company sold to Almirall 681,819 shares of the Company's convertible preferred stock (Note 4). These shares of preferred stock converted to the Company's Class B common stock on a 1:1 basis upon the completion of the Company's IPO in February 2010. Amounts due to and due from Allergan and Almirall are reflected as related party accounts payable and related party accounts receivable, respectively. These balances are reported net of any balances due to or from the related party. At December 31, 2015, the Company did not have any related party accounts receivable associated with Almirall, and approximately $51.6 million in related party accounts receivable, net of related party accounts payable, associated with Allergan. At December 31, 2014, the Company did not have any related party accounts receivable associated with Almirall and approximately $25.8 million in related party accounts receivable, net of related party accounts payable, associated with Allergan.

17. State Grants

In the years ended December 31, 2012 and 2011, the Company was awarded an approximately $1.7 million and approximately $0.9 million tax incentive, respectively, associated with the Life Sciences Tax Incentive Program from the Massachusetts Life Sciences Center. The program was established in 2008 in order to incentivize life sciences companies to create new sustained jobs in Massachusetts. Jobs must be maintained for at least five years, during which time the grant proceeds can be recovered by the Massachusetts Department of Revenue ("DOR") if the Company does not meet and maintain its job creation commitments. The award received in 2011 was recognized as other income in the consolidated statement of operations in the third quarter of 2011, as the Company believed it had satisfied its job creation commitments. For the approximately $1.7 million in funds received in 2012, the Company believed it had satisfied its job creation commitments for the years 2012 and 2013 and recognized approximately $0.7 million as other income in the consolidated statement of operations for the year ended December 31, 2014. The remaining approximately $1.0 million was recorded as other current liabilities at December 31, 2014 and was returned to the DOR during the year ended December 31, 2015, as the Company did not satisfy the job creation commitments under the award.

18. Workforce Reduction

On January 8, 2014, the Company announced a headcount reduction of approximately 10% to align its workforce with its strategy. The field-based sales force and medical science liaison team were excluded from the workforce reduction.

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

18. Workforce Reduction (Continued)

During the three months ended March 31, 2014, the Company substantially completed the implementation of this reduction in workforce and, in accordance with ASC 420, *Exit or Disposal Cost Obligations,* recorded approximately $4.3 million of costs, including employee severance, benefits and related costs. These costs were reflected in the Consolidated Statement of Operations as approximately $3.0 million in research and development expenses and approximately $1.2 million in selling, general and administrative expenses. The Company did not record any additional charges associated with this workforce reduction during the years ended December 31, 2015 and 2014. All payments related to this reduction in workforce were made by the end of 2014.

19. Selected Quarterly Financial Data (Unaudited)

The following table contains quarterly financial information for the years ended December 31, 2015 and 2014. The Company believes that the following information reflects all normal recurring adjustments necessary for a fair presentation of the information for the periods presented. The operating results for any quarter are not necessarily indicative of results for any future period.

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
	(in thousands, except per share data)				
2015					
Collaborative arrangements revenue	$ 28,932	$ 27,744	$ 39,572	$ 53,307	$ 149,555
Total cost and expenses[1]	56,999	69,753	65,757	59,134	251,643
Other (expense) income, net[2]	(5,155)	(6,011)	(21,205)	(8,210)	(40,581)
Net loss	(33,222)	(48,020)	(47,390)	(14,037)	(142,669)
Net loss per share basic and diluted	$ (0.24)	$ (0.34)	$ (0.33)	$ (0.09)	$ (1.00)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
	(in thousands, except per share data)				
2014					
Collaborative arrangements revenue[3]	$ 14,605	$ 6,840	$ 16,918	$ 38,073	$ 76,436
Total cost and expenses[4]	58,992	61,959	53,657	71,198	245,806
Other (expense) income, net	(5,239)	(5,238)	(5,249)	(4,522)	(20,248)
Net loss	(49,626)	(60,357)	(41,988)	(37,647)	(189,618)
Net loss per share basic and diluted	$ (0.38)	$ (0.44)	$ (0.30)	$ (0.27)	$ (1.39)

(1) Total costs and expenses for the second and third quarter of the year ended December 31, 2015 includes approximately $8.2 million and $9.4 million, respectively, related to a write down of inventory to net realizable value and accruals for excess non-cancelable inventory purchase commitments (Note 7).

(2) Other (expense) income, net for the second and third quarters of the year ended December 31, 2015 includes approximately $0.2 million and $11.4 million, respectively, as a loss on derivatives. Other (expense) income, net for the fourth quarter of the year ended December 31, 2015 includes approximately $1.6 million, as a gain on derivatives. The gain (loss) on derivatives consists of the change in fair value of the Company's Convertible Note Hedges and Note Hedge Warrants, which are recorded as derivative assets and liabilities. The Convertible Note Hedges and the Note Hedge

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Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

19. Selected Quarterly Financial Data (Unaudited) (Continued)

Warrants are recorded at fair value at each reporting period and changes in fair value are recorded in the Company's consolidated statements of operations (Note 5).

(3)

Collaborative arrangements revenue for the fourth quarter of the year ended December 31, 2014 includes approximately $10.2 million related to the receipt of a milestone payment under the Company's license agreement with Astellas for the enrollment of the first study subject in a Phase III study for linaclotide in Japan, which was achieved in November 2014 (Note 4).

(4)

Total costs and expenses for the second and fourth quarter of the year ended December 31, 2014 includes approximately $8.9 million and $11.4 million, respectively, related to a write down of inventory to net realizable value (Note 7).

Exhibit Index

Number	Description	Incorporated by reference herein Form	Date
3.1	Eleventh Amended and Restated Certificate of Incorporation	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2010
3.2	Fifth Amended and Restated Bylaws	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2010
4.1	Specimen Class A common stock certificate	Registration Statement on Form S-1, as amended (File No. 333-163275)	January 20, 2010
4.2	Eighth Amended and Restated Investors' Rights Agreement, dated as of September 1, 2009, by and among Ironwood Pharmaceuticals, Inc., the Founders and the Investors named therein	Registration Statement on Form S-1, as amended (File No. 333-163275)	November 20, 2009
4.3	Indenture, dated as of January 4, 2013, by and between Ironwood Pharmaceuticals, Inc., as issuer of the Notes, and U.S. Bank National Association, as initial trustee of the Notes and as Operating Bank (including the form of the Linaclotide PhaRMA^{SM} 11% Notes due 2024)	Form 8-K (File No. 001-34620)	January 8, 2013
4.4	Indenture, dated as of June 15, 2015, by and between Ironwood Pharmaceuticals, Inc. and U.S. Bank National Association (including the form of the 2.25% Convertible Senior Note due 2022)	Form 8-K (File No. 001-34620)	June 15, 2015
10.1#	Amended and Restated 2002 Stock Incentive Plan and form agreements thereunder	Registration Statement on Form S-1, as amended (File No. 333-163275)	December 23, 2009
10.2#	Amended and Restated 2005 Stock Incentive Plan and form agreements thereunder	Registration Statement on Form S-1, as amended (File No. 333-163275)	January 29, 2010
10.3#	Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan	Registration Statement on Form S-8, as amended (File No. 333-184396)	October 12, 2012
10.3.1#	Form of Stock Option Agreement under the Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan	Annual Report on Form 10-K (File No. 001-34620)	February 18, 2015
10.3.2#	Form of Non-employee Director Restricted Stock Agreement under the Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan	Annual Report on Form 10-K (File No. 001-34620)	February 18, 2015
10.3.3#	Form of Restricted Stock Unit Agreement under the Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan	Annual Report on Form 10-K (File No. 001-34620)	February 18, 2015

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Number	Description	Incorporated by reference herein Form	Date
10.4#	Amended and Restated 2010 Employee Stock Purchase Plan	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.5#	Change of Control Severance Benefit Plan, as amended and restated	Quarterly Report on Form 10-Q (File No. 001-34620)	April 29, 2014
10.6#	Form of Executive Severance Agreement	Annual Report on Form 10-K (File No. 001-34620)	February 18, 2015
10.7#	Director Compensation Plan effective January 1, 2014	Annual Report on Form 10-K (File No. 001-34620)	February 7, 2014
10.8#	Form of Indemnification Agreement with Directors and Officers	Registration Statement on Form S-1, as amended (File No. 333-163275)	December 23, 2009
10.9#	Consulting Agreement, dated as of December 16, 2014, by and between Christopher Walsh and Ironwood Pharmaceuticals, Inc.	Annual Report on Form 10-K (File No. 001-34620)	February 18, 2015
10.10#	Consulting Agreement, dated December 3, 2014, by and between Lawrence S. Olanoff and Ironwood Pharmaceuticals, Inc.	Quarterly Report on Form 10-Q (File No. 001-34620)	May 6, 2015
10.11+	Collaboration Agreement, dated as of September 12, 2007, as amended on November 3, 2009, by and between Forest Laboratories, Inc. and Ironwood Pharmaceuticals, Inc.	Registration Statement on Form S-1, as amended (File No. 333-163275)	February 2, 2010
10.11.1	Amendment No. 2 to the Collaboration Agreement, dated as of January 8, 2013, by and between Forest Laboratories, Inc. and Ironwood Pharmaceuticals, Inc.	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.12+	License Agreement, dated as of April 30, 2009, by and between Allergan Pharmaceuticals International Ltd. (formerly with Almirall, S.A.) and Ironwood Pharmaceuticals, Inc.	Registration Statement on Form S-1, as amended (File No. 333-163275)	February 2, 2010
10.12.1+	Amendment No. 1 to License Agreement, dated as of June 11, 2013, by and between Allergan Pharmaceuticals International Ltd. (formerly with Almirall, S.A.) and Ironwood Pharmaceuticals, Inc.	Quarterly Report on Form 10-Q (File No. 001-34620)	August 8, 2013
10.12.2++*	Amendment to the License Agreement, dated as of October 26, 2015, by and between Allergan Pharmaceuticals International Ltd. and Ironwood Pharmaceuticals, Inc.		
10.13++*	Novation Agreement, dated as of October 26, 2015, by and among Almirall, S.A., Allergan Pharmaceuticals International Ltd. and Ironwood Pharmaceuticals, Inc.		

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Number	Description	Incorporated by reference herein Form	Date
10.14+	License Agreement, dated as of November 10, 2009, by and among Astellas Pharma Inc. and Ironwood Pharmaceuticals, Inc.	Registration Statement on Form S-1, as amended (File No. 333-163275)	February 2, 2010
10.15+	Collaboration Agreement, dated as of October 23, 2012, by and between AstraZeneca AB and Ironwood Pharmaceuticals, Inc.	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.16+	Commercial Supply Agreement, dated as of June 23, 2010, by and among PolyPeptide Laboratories, Inc. and Polypeptide Laboratories (SWEDEN) AB, Forest Laboratories, Inc. and Ironwood Pharmaceuticals, Inc.	Quarterly Report on Form 10-Q (File No. 001-34620)	August 10, 2010
10.17+	Commercial Supply Agreement, dated as of March 28, 2011, by and among Corden Pharma Colorado, Inc. (f/k/a Roche Colorado Corporation), Ironwood Pharmaceuticals, Inc. and Forest Laboratories, Inc.	Quarterly Report on Form 10-Q (File No. 001-34620)	May 13, 2011
10.17.1+	Amendment No. 3 to Commercial Supply Agreement, dated as of November 26, 2013, by and between Corden Pharma Colorado, Inc. (f/k/a Roche Colorado Corporation), Ironwood Pharmaceuticals, Inc. and Forest Laboratories, Inc.	Annual Report on Form 10-K (File No. 001-34620)	February 7, 2014
10.18	Lease for facilities at 301 Binney St., Cambridge, MA, dated as of January 12, 2007, as amended on April 9, 2009, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Registration Statement on Form S-1, as amended (File No. 333-163275)	December 23, 2009
10.18.1	Second Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of February 9, 2010, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2010
10.18.2	Third Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of July 1, 2010, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2011
10.18.3	Fourth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of February 3, 2011, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2011
10.18.4	Fifth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of October 18, 2011, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 29, 2012

Number	Description	Incorporated by reference herein Form	Date
10.18.5	Sixth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of July 19, 2012, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.18.6	Seventh Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of October 30, 2012, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.18.7	Eighth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of July 8, 2014, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 18, 2015
10.18.8	Ninth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of October 27, 2014, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 18, 2015
10.18.9	Tenth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of January 21, 2015, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 18, 2015
10.18.10	Sublease, dated as of July 1, 2014, by and between Biogen Idec MA Inc. and Ironwood Pharmaceuticals, Inc. to Lease for facilities at 301 Binney St., Cambridge, MA, as amended, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 18, 2015
10.19	Base Call Option Transaction Confirmation, dated as of June 10, 2015, between Ironwood Pharmaceuticals, Inc. and JPMorgan Chase Bank, National Association, London Branch	Quarterly Report on Form 10-Q (File No. 001-34620)	August 7, 2015
10.20	Base Call Option Transaction Confirmation, dated as of June 10, 2015, between Ironwood Pharmaceuticals, Inc. and Credit Suisse Capital LLC, through its agent Credit Suisse Securities (USA) LLC	Quarterly Report on Form 10-Q (File No. 001-34620)	August 7, 2015
10.21	Base Warrants Confirmation, dated as of June 10, 2015, between Ironwood Pharmaceuticals, Inc. and JPMorgan Chase Bank, National Association, London Branch	Quarterly Report on Form 10-Q (File No. 001-34620)	August 7, 2015
10.22	Base Warrants Confirmation, dated as of June 10, 2015, between Ironwood Pharmaceuticals, Inc. and Credit Suisse Capital LLC, through its agent Credit Suisse Securities (USA) LLC	Quarterly Report on Form 10-Q (File No. 001-34620)	August 7, 2015
10.23	Additional Call Option Transaction Confirmation, dated as of June 22, 2015, between Ironwood Pharmaceuticals, Inc. and JPMorgan Chase Bank, National Association, London Branch	Quarterly Report on Form 10-Q (File No. 001-34620)	August 7, 2015

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		Incorporated by reference herein	
Number	Description	Form	Date
10.24	Additional Call Option Transaction Confirmation, dated as of June 22, 2015, between Ironwood Pharmaceuticals, Inc. and Credit Suisse Capital LLC, through its agent Credit Suisse Securities (USA) LLC	Quarterly Report on Form 10-Q (File No. 001-34620)	August 7, 2015
10.25	Additional Warrants Confirmation, dated as of June 22, 2015, between Ironwood Pharmaceuticals, Inc. and JPMorgan Chase Bank, National Association, London Branch	Quarterly Report on Form 10-Q (File No. 001-34620)	August 7, 2015
10.26	Additional Warrants Confirmation, dated as of June 22, 2015, between Ironwood Pharmaceuticals, Inc. and Credit Suisse Capital LLC, through its agent Credit Suisse Securities (USA) LLC	Quarterly Report on Form 10-Q (File No. 001-34620)	August 7, 2015
21.1*	Subsidiaries of Ironwood Pharmaceuticals, Inc.		
23.1*	Consent of Independent Registered Public Accounting Firm		
31.1*	Certification of Chief Executive Officer pursuant to Rules 13a-14 or 15d-14 of the Exchange Act		
31.2*	Certification of Chief Financial Officer pursuant to Rules 13a-14 or 15d-14 of the Exchange Act		
32.1	Certification of Chief Executive Officer pursuant to Rules 13a-14(b) or 15d-14(b) of the Exchange Act and 18 U.S.C. Section 1350		
32.2	Certification of Chief Financial Officer pursuant to Rules 13a-14(b) or 15d-14(b) of the Exchange Act and 18 U.S.C. Section 1350		
101.INS*	XBRL Instance Document		
101.SCH*	XBRL Taxonomy Extension Schema Document		
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document		
101.LAB*	XBRL Taxonomy Extension Label Linkbase Database		
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document		
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document		

* Filed herewith.

Furnished herewith.

\+ Confidential treatment granted under 17 C.F.R. §§200.80(b)(4) and 230.406. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions have been provided separately to the SEC pursuant to the confidential treatment request.

++ Confidential treatment requested under 17 C.F.R. §§200.80(b)(4) and Rule 24b-2. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions have been provided separately to the SEC pursuant to the confidential treatment request.

Management contract or compensatory plan, contract, or arrangement.