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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2021

OR

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

For the transition period from to
Commission file number: 001-34620

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)
100 Summer Street, Suite 2300 Boston, Massachusetts	**02110**
(Address of Principal Executive Offices)	(Zip Code)

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

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Class A common stock, $0.001 par value	IRWD	Nasdaq Global Select Market

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

Large Accelerated Filer ☒	Accelerated Filer ☐
Non-accelerated Filer ☐	Smaller Reporting Company ☐
	Emerging Growth Company ☐

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

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

As of July 31, 2021, there were 162,895,011 shares of Class A common stock outstanding.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q, including the sections titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Risk Factors", contains forward-looking statements. All statements contained in this Quarterly Report on Form 10-Q 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," "could," "should," "target," "goal," "potential" 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 our products in the countries where they are approved for marketing, as well as the revenues therefrom;
- the timing, investment and associated activities involved in commercializing LINZESS® by us and AbbVie Inc. in the U.S.;
- the commercialization of CONSTELLA® in Europe and LINZESS in Japan and China, as well as our expectations regarding revenue generated from our partners;
- the timing, investment and associated activities involved in developing, obtaining regulatory approval for, launching, and commercializing our products and product candidates by us and our partners worldwide;
- our ability and the ability of our partners to secure and maintain adequate reimbursement for our products;
- our ability and the ability of our partners and third parties to manufacture and distribute sufficient amounts of linaclotide active pharmaceutical ingredient, finished drug product and finished goods, as applicable, on a commercial scale;
- our expectations regarding U.S. and foreign regulatory requirements for our products and our product candidates, including our post-approval development and regulatory requirements;
- the ability of our product candidates to meet existing or future regulatory standards;
- the safety profile and related adverse events of our products and our product candidates;
- the therapeutic benefits and effectiveness of our products and our product candidates and the potential indications and market opportunities therefor;
- our ability and the ability of our partners to obtain and maintain intellectual property protection for our products and our product candidates and the strength thereof, as well as Abbreviated New Drug Applications filed by generic drug manufacturers and potential U.S. Food and Drug Administration approval thereof, and associated patent infringement suits that we have filed or may file, or other action that we may take against such companies, and the timing and resolution thereof;
- our ability and the ability of our partners to perform our respective obligations under our collaboration, license and other agreements, 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, as well as partnering arrangements, including expectations relating to the completion of, or the realization of the expected benefits from, such transactions;

- 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, and internal control over financial reporting;
- 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 and capped call transactions described herein;
- asset impairments, and the drivers thereof, and 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, motivate and retain key personnel;
- the financial and operational impacts of the COVID-19 pandemic on our business and results of operations, including impacts on our day-to-day operations, collaborative arrangements revenue and marketing efforts, manufacturing and supply chain and clinical development of our pipeline; and
- other factors discussed elsewhere in this Quarterly Report on Form 10-Q.

Any or all of our forward-looking statements in this Quarterly Report on Form 10-Q 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 Quarterly Report on Form 10-Q. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this Quarterly Report on Form 10-Q 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 Quarterly Report on Form 10-Q. 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 Quarterly Report on Form 10-Q.

NOTE REGARDING TRADEMARKS

LINZESS® and CONSTELLA® are trademarks of Ironwood Pharmaceuticals, Inc. Any other trademarks referred to in this Quarterly Report on Form 10-Q are the property of their respective owners. All rights reserved.

IRONWOOD PHARMACEUTICALS, INC.
QUARTERLY REPORT ON FORM 10-Q
FOR THE QUARTER ENDED JUNE 30, 2021
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PART I — FINANCIAL INFORMATION

Item 1. ***Financial Statements***

Ironwood Pharmaceuticals, Inc.
Condensed Consolidated Balance Sheets
(In thousands, except share and per share amounts)
(unaudited)

	June 30, 2021	December 31, 2020
ASSETS		
Current assets:		
Cash and cash equivalents	$ 492,699	$ 362,564
Accounts receivable, net	102,252	122,351
Prepaid expenses and other current assets	12,320	9,189
Restricted cash	1,735	1,735
Convertible note hedges	11,262	—
Total current assets	620,268	495,839
Restricted cash, net of current portion	485	485
Accounts receivable, net of current portion	23,706	23,401
Property and equipment, net	8,105	8,929
Operating lease right-of-use assets	15,975	16,576
Convertible note hedges	—	13,065
Deferred tax assets	337,800	—
Other assets	879	943
Total assets	$ 1,007,218	$ 559,238
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 466	$ 661
Accrued research and development costs	1,638	1,898
Accrued expenses and other current liabilities	16,253	26,486
Current portion of operating lease liabilities	3,161	3,128
Current portion of convertible senior notes	112,852	—
Total current liabilities	134,370	32,173
Note hedge warrants	11,061	12,088
Convertible senior notes, net of current portion	329,155	430,256
Operating lease obligations, net of current portion	19,394	20,318
Other liabilities	1,482	1,763
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 162,831,953 shares issued and outstanding at June 30, 2021 and 500,000,000 shares authorized and 160,616,675 shares issued and outstanding at December 31, 2020	163	161
Additional paid-in capital	1,546,420	1,528,535
Accumulated deficit	(1,034,827)	(1,466,056)
Total stockholders' equity	511,756	62,640
Total liabilities and stockholders' equity	$ 1,007,218	$ 559,238

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

Ironwood Pharmaceuticals, Inc.
Condensed Consolidated Statements of Income and Comprehensive Income
(In thousands, except per share amounts)
(unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Revenues:				
Collaborative arrangements revenue	$ 103,386	$ 89,423	$ 192,051	$ 163,868
Sale of active pharmaceutical ingredient	645	9	825	5,507
Total revenues	104,031	89,432	192,876	169,375
Cost and expenses:				
Cost of revenues	—	—	—	2,239
Research and development	12,163	22,076	27,647	50,103
Selling, general and administrative	27,052	34,643	54,704	71,093
Restructuring expenses	(282)	—	29	—
Total cost and expenses	38,933	56,719	82,380	123,435
Income from operations	65,098	32,713	110,496	45,940
Other (expense) income:				
Interest expense	(7,732)	(7,318)	(15,358)	(14,538)
Interest and investment income	172	276	368	1,053
Loss on derivatives	(3,166)	(467)	(776)	(3,933)
Other income	—	—	—	27
Other expense, net	(10,726)	(7,509)	(15,766)	(17,391)
Income before income taxes	54,372	25,204	94,730	28,549
Income tax benefit	336,931	—	336,499	—
Net income and comprehensive income	$ 391,303	$ 25,204	$ 431,229	$ 28,549
Net income per share—basic	$ 2.42	$ 0.16	$ 2.67	$ 0.18
Net income per share—diluted	$ 2.39	$ 0.16	$ 2.64	$ 0.18
Weighted average shares used in computing net income per share—basic:	161,948	159,407	161,460	158,890
Weighted average shares used in computing net income per share—diluted:	163,495	159,920	163,134	160,032

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

Ironwood Pharmaceuticals, Inc.
Condensed Consolidated Statements of Stockholders' Equity (Deficit)
(In thousands, except share amounts)
(unaudited)

	Class A Common Stock		Additional paid-in capital	Accumulated deficit	Total Stockholders' equity
	Shares	Amount			
Balance at December 31, 2020	160,616,675	161	1,528,535	(1,466,056)	62,640
Issuance of common stock related to share-based awards and employee stock purchase plan	1,314,337	1	2,229	—	2,230
Share-based compensation expense related to share-based awards and employee stock purchase plan	—	—	5,396	—	5,396
Net income	—	—	—	39,926	39,926
Balance at March 31, 2021	161,931,012	$ 162	$ 1,536,160	$ (1,426,130)	$ 110,192
Issuance of common stock related to share-based awards and employee stock purchase plan	900,941	1	5,671	—	5,672
Share-based compensation expense related to share-based awards and employee stock purchase plan	—	—	4,589	—	4,589
Net income	—	—	—	391,303	391,303
Balance at June 30, 2021	162,831,953	$ 163	$ 1,546,420	$ (1,034,827)	$ 511,756

	Class A Common Stock		Additional paid-in capital	Accumulated deficit	Total Stockholders' deficit
	Shares	Amount			
Balance at December 31, 2019	157,535,962	158	1,478,823	(1,572,232)	(93,251)
Issuance of common stock related to share-based awards and employee stock purchase plan	1,832,164	1	11,984	—	11,985
Share-based compensation expense related to share-based awards and employee stock purchase plan	—	—	6,364	—	6,364
Net income	—	—	—	3,345	3,345
Balance at March 31, 2020	159,368,126	$ 159	$ 1,497,171	$ (1,568,887)	$ (71,557)
Issuance of common stock related to share-based awards and employee stock purchase plan	608,119	1	2,409	—	2,410
Share-based compensation expense related to share-based awards and employee stock purchase plan	—	—	7,091	—	7,091
Net income	—	—	—	25,204	25,204
Balance at June 30, 2020	159,976,245	$ 160	$ 1,506,671	$ (1,543,683)	$ (36,852)

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

Ironwood Pharmaceuticals, Inc.
Condensed Consolidated Statements of Cash Flows
(In thousands)
(unaudited)

	Six Months Ended June 30,	
	2021	**2020**
Cash flows from operating activities:		
Net income	$ 431,229	$ 28,549
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	806	1,322
Loss on disposal of property and equipment	17	423
Share-based compensation expense	9,985	13,455
Change in fair value of note hedge warrants	(1,027)	(11,302)
Change in fair value of convertible note hedges	1,803	15,235
Non-cash interest expense	11,750	10,930
Deferred income taxes (including benefit from valuation allowance release)	(337,800)	—
Changes in assets and liabilities:		
Accounts receivable and related party accounts receivable, net	19,794	21,469
Prepaid expenses and other current assets	(3,101)	(3,638)
Inventory, net	—	648
Operating lease right-of-use assets	601	587
Other assets	64	(30)
Accounts payable, related party accounts payable and accrued expenses	(10,428)	(13,861)
Accrued research and development costs	(260)	(556)
Operating lease liabilities	(891)	593
Other liabilities	(280)	(133)
Net cash provided by operating activities	122,262	63,691
Cash flows from investing activities:		
Purchases of property and equipment	—	(1,814)
Net cash used in investing activities	—	(1,814)
Cash flows from financing activities:		
Proceeds from exercise of stock options and employee stock purchase plan	7,873	14,352
Net cash provided by financing activities	7,873	14,352
Net increase in cash, cash equivalents and restricted cash	130,135	76,229
Cash, cash equivalents and restricted cash, beginning of period	364,784	179,244
Cash, cash equivalents and restricted cash, end of period	$ 494,919	$ 255,473
Reconciliation of cash, cash equivalents, and restricted cash to the condensed consolidated balance sheets		
Cash and cash equivalents	$ 492,699	$ 253,252
Restricted cash	2,220	2,221
Total cash, cash equivalents, and restricted cash	$ 494,919	$ 255,473

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

Ironwood Pharmaceuticals, Inc.
Notes to Condensed Consolidated Financial Statements
(unaudited)

1. Nature of Business

Ironwood Pharmaceuticals, Inc. ("Ironwood" or the "Company") is a gastrointestinal ("GI") healthcare company dedicated to advancing the treatment of GI diseases and redefining the standard of care for GI patients. The Company is focused on the development and commercialization of innovative GI product opportunities in areas of significant unmet need, leveraging its demonstrated expertise and capabilities in GI diseases.

LINZESS® (linaclotide), the Company's commercial product, is the first product approved by the United States Food and Drug Administration (the "U.S. FDA") in a class of GI medicines called guanylate cyclase type C agonists and is indicated for adult men and women suffering from irritable bowel syndrome with constipation ("IBS-C") or chronic idiopathic constipation ("CIC"). LINZESS is available to adult men and women suffering from IBS-C or CIC in the United States (the "U.S.") and Mexico and to adult men and women suffering from IBS-C in Japan and China. Linaclotide is available under the trademarked name CONSTELLA® to adult men and women suffering from IBS-C or CIC in Canada, and to adult men and women suffering from IBS-C in certain European countries.

The Company has strategic partnerships with leading pharmaceutical companies to support the development and commercialization of linaclotide throughout the world. The Company and its partner, AbbVie Inc. (together with its affiliates, "AbbVie") (successor to Allergan plc), began commercializing LINZESS in the U.S. in December 2012. Under the Company's collaboration for North America with AbbVie, total net sales of LINZESS in the U.S., as recorded by AbbVie, are reduced by commercial costs incurred by each party, and the resulting amount is shared equally between the Company and AbbVie. Additionally, development costs are shared equally between the Company and AbbVie. AbbVie also has an exclusive license from the Company to develop and commercialize linaclotide in all countries other than China (including Hong Kong and Macau), Japan and the countries and territories of North America (the "AbbVie License Territory"). On a country-by-country and product-by-product basis in the AbbVie License Territory, AbbVie pays the Company a royalty as a percentage of net sales of products containing linaclotide as an active ingredient. In addition, AbbVie has exclusive rights to commercialize linaclotide in Canada as CONSTELLA and in Mexico as LINZESS.

Astellas Pharma Inc. ("Astellas"), the Company's partner in Japan, has an exclusive license to develop and commercialize linaclotide in Japan. In March 2017, Astellas began commercializing LINZESS for the treatment of adults with IBS-C in Japan, and in September 2018, Astellas began commercializing LINZESS for the treatment of adults with chronic constipation in Japan. In August 2019, the Company amended and restated its license agreement with Astellas. Effective in 2020, the Company is no longer responsible for the supply of linaclotide active pharmaceutical ingredient ("API") to Astellas (Note 4).

In October 2012, the Company and AstraZeneca AB (together with its affiliates) ("AstraZeneca") entered into a collaboration agreement to co-develop and co-commercialize linaclotide in China (including Hong Kong and Macau) (the "AstraZeneca License Territory"). In September 2019, the Company amended and restated its existing collaboration agreement with AstraZeneca whereby AstraZeneca obtained the exclusive right to develop, manufacture, and commercialize products containing linaclotide in the AstraZeneca License Territory (Note 4). In November 2019, AstraZeneca began commercializing LINZESS for the treatment of adults with IBS-C in China.

The Company and AbbVie are exploring ways to enhance the clinical profile of LINZESS by studying linaclotide in additional indications, populations and formulations to assess its potential to treat various conditions. In September 2020, based on the Phase IIIb data demonstrating efficacy and safety of LINZESS 290 mcg on the overall abdominal symptoms of bloating, pain and discomfort in adult patients with IBS-C, the U.S. FDA approved the Company's supplemental New Drug Application to include a more comprehensive description of the effects of LINZESS in its approved label. In June 2020 and July 2020, the United States Patent and Trademark Office granted patents covering the formulation of the 72 mcg dose of LINZESS and methods of using the formulation, respectively. The patents are expected to expire in 2031.

These and other agreements are more fully described in Note 4, *Collaboration, License, Promotion and Other Commercial Agreements*, to these condensed consolidated financial statements.

On April 1, 2019, Ironwood completed the separation (the "Separation") of its soluble guanylate cyclase business, and certain other assets and liabilities, into Cyclerion Therapeutics, Inc. ("Cyclerion"). The Separation was effected by means of a distribution of all of the outstanding shares of common stock, with no par value, of Cyclerion through a dividend of all outstanding shares of Cyclerion's common stock, to Ironwood's stockholders of record as of the close of business on March 19, 2019.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying condensed consolidated financial statements and the related disclosures are unaudited and have been prepared in accordance with accounting principles generally accepted in the U.S. Additionally, certain information and footnote disclosures normally included in the Company's annual financial statements have been condensed or omitted. Accordingly, these interim condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and notes thereto contained in the Company's Annual Report on Form 10-K for the year ended December 31, 2020, which was filed with the Securities and Exchange Commission on February 17, 2021 (the "2020 Annual Report on Form 10-K").

The unaudited interim condensed consolidated financial statements have been prepared on the same basis as the audited consolidated financial statements and, in the opinion of management, reflect all normal recurring adjustments considered necessary for a fair statement of the Company's financial position as of June 30, 2021, and the results of its operations for the three and six months ended June 30, 2021 and 2020, its statements of stockholders' equity for the three and six months ended June 30, 2021 and 2020, and its cash flows for the six months ended June 30, 2021 and 2020. The results of operations for the three and six months ended June 30, 2021 and 2020 are not necessarily indicative of the results that may be expected for the full year or any other subsequent interim period.

Principles of Consolidation

The accompanying condensed consolidated financial statements include the accounts of Ironwood and its wholly-owned subsidiaries as of June 30, 2021, Ironwood Pharmaceuticals Securities Corporation and Ironwood Pharmaceuticals GmbH. All intercompany transactions and balances are eliminated in consolidation.

Use of Estimates

The preparation of condensed 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 condensed consolidated financial statements, and the amounts of revenues and expenses during the reported periods. On an ongoing basis, the Company's management evaluates its estimates, judgments and methodologies. Significant estimates and assumptions in the condensed consolidated financial statements include those related to revenue recognition; accounts receivable; useful lives of long-lived assets, impairment of long-lived assets, including goodwill; valuation procedures for right-of-use assets and operating lease liabilities; valuation procedures for the issuance and repurchase of convertible notes; balance sheet classification of convertible notes; fair value of derivatives; 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.

Reclassifications

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

Summary of Significant Accounting Policies

The Company's significant accounting policies are described in Note 2, *Summary of Significant Accounting Policies*, in the 2020 Annual Report on Form 10-K. During the three and six months ended June 30, 2021, the Company did not adopt any additional significant accounting policies, except as outlined below.

New Accounting Pronouncements

From time to time, new accounting pronouncements are issued by the Financial Accounting Standards Board (the "FASB") or other standard setting bodies that are adopted by the Company as of the specified effective date.

In December 2019, the FASB issued ASU No. 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes* ("ASU 2019-12"), which is intended to simplify various aspects related to accounting for income taxes. ASU 2019-12 removes certain exceptions to the general principles in Topic 740 and also clarifies and amends existing guidance to improve consistent application. This guidance is effective on a prospective basis for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020, with early adoption permitted. The Company adopted ASU 2019-12 during the three months ended March 31, 2021. The adoption of ASU 2019-12 did not have a material impact on the Company's financial position and results of operations.

In August 2020, the FASB issued ASU No. 2020-06, *Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging— Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity* ("ASU 2020-06"). The amendments in ASU 2020-06 simplify the accounting for certain financial instruments with characteristics of liabilities and equity, including convertible instruments and contracts on an entity's own equity. Under ASU 2020-06, a convertible debt instrument will be accounted for as a single liability measured at its amortized cost, as long as no other features require bifurcation and recognition as derivatives. These changes will reduce reported interest expense and increase reported net income for entities that have issued a convertible instrument that was bifurcated under previously existing guidance. The new guidance also requires the if-converted method to be applied for all convertible instruments. The standard is effective for public companies for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2021. Early adoption is permitted. Upon adoption, entities may apply the new standard on a modified retrospective or full retrospective basis. The Company is currently evaluating the impact that the adoption of ASU 2020-06 may have on its financial position and results of operations. The Company's analysis includes, but is not limited to, reviewing existing convertible debt agreements, assessing potential disclosures, and evaluating the impact of adoption on the Company's condensed consolidated financial statements. The Company is in the process of finalizing the quantitative impact that the ASUs will have on the financial statements, as well as its plan for implementation.

In May 2021, the FASB issued ASU No. 2021-04, *Earnings Per Share (Topic 260), Debt—Modifications and Extinguishments (Subtopic 470-50), Compensation—Stock Compensation (Topic 718), and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40): Issuer's Accounting for Certain Modifications or Exchanges of Freestanding Equity-Classified Written Call Options* ("ASU 2021-04"). The guidance in ASU 2021-04 clarifies and reduces diversity in an issuer's accounting for modifications or exchanges of freestanding equity-classified written call options that remain equity classified after modification or exchange. The standard is effective for public companies for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2021. Early adoption is permitted. The Company is currently evaluating the impact that the adoption of ASU 2021-04 may have on its financial position and results of operations.

Other recent accounting pronouncements issued, but not yet effective, are not expected to be applicable to the Company or have a material effect on the condensed consolidated financial statements upon future adoption.

3. Net Income Per Share

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Numerator:				
Net income	$ 391,303	$ 25,204	$ 431,229	$ 28,549
Denominator:				
Weighted average number of common shares outstanding used in computing net income per share — basic	161,948	159,407	161,460	158,890
Effect of dilutive securities:				
Stock options	417	244	348	465
Time-based restricted stock units	928	153	1,121	552
Performance-based restricted stock units	70	—	71	—
Restricted stock	132	116	134	125
Dilutive potential common shares				
Weighted average number of common shares outstanding used in computing net income per share — diluted	163,495	159,920	163,134	160,032
Net income per share — basic	$ 2.42	$ 0.16	$ 2.67	$ 0.18
Net income per share — diluted	$ 2.39	$ 0.16	$ 2.64	$ 0.18

The outstanding securities have been excluded from the computation of diluted weighted average shares outstanding, as applicable, as their effect would be anti-dilutive (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Stock options	9,430	12,360	10,007	14,828
Restricted stock awards	—	—	36	—
Shares subject to repurchase	—	—	—	174
Time-based restricted stock units	84	3,134	53	5,012
Performance-based restricted stock units	619	—	330	586
Note Hedge Warrants	8,318	8,318	8,318	8,318
2022 Convertible Notes	8,318	8,318	8,318	8,318
2024 Convertible Notes	14,934	14,934	14,934	14,934
2026 Convertible Notes	14,934	14,934	14,934	14,934
Total	56,637	61,998	56,930	67,104

The potentially dilutive impact of the 2022 Convertible Notes, 2024 Convertible Notes and 2026 Convertible notes (together, the "Convertible Senior Notes") (Note 8) is determined using the treasury stock method. Under this method, no numerator or denominator adjustments arise from the principal and interest components of the Convertible Senior Notes because the Company has the intent and ability to settle the Convertible Senior Notes' principal and interest in cash. Instead, the Company is required to increase the diluted net income per share denominator by the variable number of shares that would be issued upon conversion if it settled the conversion spread obligation with shares. For diluted net income per share purposes, the conversion spread obligation is calculated based on whether the average market price of the Company's Class A Common Stock during the reporting period is in excess of the conversion price of the Convertible Senior Notes. There was no calculated spread added to the denominator for the three and six months ended June 30, 2021 or 2020.

4. Collaboration, License, Promotion and Other Commercial Agreements

For the three and six months ended June 30, 2021, the Company had linaclotide collaboration agreements with AbbVie for North America and AstraZeneca for China (including Hong Kong and Macau), as well as linaclotide license agreements with Astellas for Japan and with AbbVie for the AbbVie License Territory. The Company also had an agreement with Alnylam Pharmaceuticals, Inc ("Alnylam") to perform disease awareness activities for AHP and sales detailing activities for GIVLAARI. The following table provides amounts included in the Company's consolidated statements of income as collaborative arrangements revenue and sale of API primarily attributable to transactions from these arrangements (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
Collaborative Arrangements Revenue	**2021**	**2020**	**2021**	**2020**
Linaclotide Collaboration and License Agreements:				
AbbVie (North America)	$ 101,038	$ 86,926	$ 187,537	$ 158,618
AbbVie (Europe and other)	574	440	1,174	1,083
AstraZeneca (China, including Hong Kong and Macau)	200	187	410	519
Astellas (Japan)	570	504	1,066	983
Co-Promotion and Other Agreements:				
Alnylam (GIVLAARI)	596	1,061	1,052	2,006
Other	408	305	812	659
Total collaborative arrangements revenue	$ 103,386	$ 89,423	$ 192,051	$ 163,868
Sale of API				
Linaclotide Agreements:				
AstraZeneca (China, including Hong Kong and Macau)	576	9	597	5,507
Other	69	—	228	—
Total sale of API	$ 645	$ 9	$ 825	$ 5,507

Accounts receivable, net, included $126.0 million and $145.8 million primarily related to collaborative arrangements revenue and sale of API, collectively, as of June 30, 2021 and December 31, 2020, respectively. Accounts receivable, net, included $99.9 million and $110.9 million due from the Company's partner, AbbVie, net of $3.7 million and $4.3 million of accounts payable, as of June 30, 2021 and December 31, 2020, respectively.

The Company routinely assesses the creditworthiness of its license and collaboration partners. The Company has not experienced any material losses related to receivables from its license or collaboration partners during the three and six months ended June 30, 2021 and 2020.

Linaclotide Agreements

Collaboration Agreement for North America with AbbVie

In September 2007, the Company entered into a collaboration agreement with AbbVie 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 received a non-refundable, upfront licensing fee and shares equally with AbbVie 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. AbbVie is solely responsible for the further development, regulatory approval and commercialization of linaclotide in those countries and funding any costs. 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. As of June 30, 2021, $205.0 million in license fees and all six 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 $80.0 million in a sales-related milestone if certain conditions are met, which will be recognized as collaborative arrangements revenue when it is probable that a significant reversal of revenue would not occur, and the associated constraints have been lifted.

During the three and six months ended June 30, 2021, the Company incurred $1.8 million and $3.6 million, respectively, in total research and development expenses under the linaclotide collaboration for North America. During the three and six months ended June 30, 2020, the Company incurred $6.2 million and $12.9 million, respectively, in total research and development expenses under the linaclotide collaboration for North America. As a result of the research and development cost-sharing provisions of the linaclotide collaboration for North America, the Company incurred $2.8 million and $5.7 million, in incremental research and development costs during the three and six months ended June 30, 2021, respectively, and incurred $0.5 million and $1.2 million in incremental research and development costs during the three and six months ended June 30, 2020, respectively, to reflect the obligations of each party under the collaboration to bear 50% of the development costs incurred.

The Company and AbbVie began commercializing LINZESS in the U.S. in December 2012. 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. Net profits or net losses consist of net sales of LINZESS 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. LINZESS net sales are calculated and recorded by AbbVie and may include gross sales net of discounts, rebates, allowances, sales taxes, freight and insurance charges, and other applicable deductions.

The Company evaluated its collaboration arrangement for North America with AbbVie and concluded that all development-period performance obligations had been satisfied as of September 2012. However, the Company has determined that there are three remaining commercial-period performance obligations, which include the sales detailing of LINZESS, participation in the joint commercialization committee, and approved additional trials. The consideration remaining includes cost reimbursements in the U.S., as well as commercial sales-based milestones and net profit and loss sharing payments based on net sales in the U.S. Additionally, the Company receives royalties in the mid-teens percent based on net sales in Canada and Mexico. Royalties, commercial sales-based milestones, and net profit and loss sharing payments will be recorded as collaborative arrangements revenue or expense in the period earned, as these payments relate predominately to the license granted to AbbVie. The Company records royalty revenue in the period earned based on royalty reports from its partner, if available, or based on the projected sales and historical trends. The cost reimbursements received from AbbVie during the commercialization period will be recognized as earned in accordance with the right-to-invoice practical expedient, as the Company's right to consideration corresponds directly with the value of the services transferred during the commercialization period.

Under the Company's collaboration agreement with AbbVie for North America, LINZESS net sales are calculated and recorded by AbbVie and include gross sales net of discounts, rebates, allowances, sales taxes, freight and insurance charges, and other applicable deductions, as noted above. These amounts include the use of estimates and judgments, which could be adjusted based on actual results in the future. The Company records its share of the net profits or net losses from the sales of LINZESS in the U.S. less commercial expenses on a net basis, and presents the settlement payments to and from AbbVie as collaboration expense or collaborative arrangements revenue, as applicable. This treatment is in accordance with the Company's revenue recognition policy, given that the Company is not the primary obligor and does not have the inventory risks in the collaboration agreement with AbbVie for North America. The Company relies on AbbVie to provide accurate and complete information related to net sales of LINZESS in accordance with U.S. generally accepted accounting principles in order to calculate its settlement payments to and from AbbVie and record collaboration expense or collaborative arrangements revenue, as applicable.

The Company recognized collaborative arrangements revenue from the AbbVie collaboration agreement for North America during the three and six months ended June 30, 2021 and 2020 as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Collaborative arrangements revenue related to sales of LINZESS in the U.S.	$ 100,307	$ 86,503	$ 186,256	$ 157,645
Royalty revenue	731	423	1,281	973
Total collaborative arrangements revenue	$ 101,038	$ 86,926	$ 187,537	$ 158,618

The collaborative arrangements revenue recognized in the three and six months ended June 30, 2021 and 2020 primarily represents the Company's share of the net profits and net losses on the sale of LINZESS in the U.S.

The Company incurred $7.5 million and $14.5 million in total selling, general and administrative costs related to the sale of LINZESS in the U.S. in accordance with the cost-sharing arrangement with AbbVie, which included an

insignificant amount in patent prosecution and patent litigation costs, for each of the three and six months ended June 30, 2021, respectively. The Company incurred $4.1 million and $13.0 million in total selling, general and administrative costs related to the sale of LINZESS in the U.S. in accordance with the cost-sharing arrangement with AbbVie, which included an insignificant amount and $0.4 million in patent prosecution and patent litigation costs, for the three and six months ended June 30, 2020, respectively.

In May 2014, CONSTELLA® became commercially available in Canada and, in June 2014, LINZESS became commercially available in Mexico. The Company records royalties on sales of CONSTELLA in Canada and LINZESS in Mexico in the period earned. The Company recognized $0.7 million and $1.3 million of combined royalty revenues from Canada and Mexico during the three and six months ended June 30, 2021, respectively. The Company recognized $0.4 million and $1.0 million of combined royalty revenues from Canada and Mexico during the three and six months ended June 30, 2020, respectively.

License Agreement with AbbVie (All countries other than the countries and territories of North America, China (including Hong Kong and Macau), and Japan)

In April 2009, the Company entered into a license agreement with Almirall, S.A. ("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 (the "European License Agreement"). In accordance with the European License Agreement, the Company granted Almirall a right to access its U.S. Phase III clinical trial data for the purposes of supporting European regulatory approval. In October 2015, Almirall transferred its exclusive license to develop and commercialize linaclotide in Europe to AbbVie.

Additionally, in October 2015, the Company and AbbVie separately entered 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) certain 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 certain 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) AbbVie assumed responsibility for the manufacturing of linaclotide API for Europe from the Company, as well as the associated costs. The Company concluded that the 2015 amendment to the European License Agreement was not a modification to the linaclotide collaboration agreement with AbbVie for North America.

In January 2017, the Company and AbbVie entered into an amendment to the European License Agreement (the "2017 Amendment"). The 2017 Amendment extended the license to develop and commercialize linaclotide in all countries other than China (including Hong Kong and Macau), Japan, and the countries and territories of North America. On a country-by-country and product-by-product basis in such additional territory, AbbVie is obligated to pay the Company a royalty as a percentage of net sales of products containing linaclotide as an active ingredient in the upper-single digits for five years following the first commercial sale of a linaclotide product in a country, and in the low-double digits thereafter. The royalty rate for products in the expanded territory will decrease, on a country-by-country basis, to the lower-single digits, or cease entirely, following the occurrence of certain events. The 2017 Amendment did not modify any of the milestones or royalty terms related to Europe.

In evaluating the terms of the European License Agreement, as amended by the 2017 Amendment (the "Amended European License Agreement"), the Company determined that there are no remaining performance obligations as of September 2012. However, the Company continues to be eligible to receive consideration in the form of commercial launch milestones, sales-based milestones, and royalties.

The commercial launch milestones, sales-based milestones and royalties under the Amended European License Agreement relate predominantly to the license granted to AbbVie. The Company records royalties on sales of CONSTELLA in Europe in the period earned based on royalty reports from its partner, if available, or the projected sales and historical trends under the sales-based royalty exception. The commercial launch milestones are recognized as revenue when it is probable that a significant reversal of revenue would not occur and the associated constraint has been lifted.

The Company recognized $0.6 million and $1.2 million of royalty revenue from the Amended European License Agreement during the three and six months ended June 30, 2021, respectively. The Company recognized $0.4 million and $1.1 million of royalty revenue from the Amended European License Agreement during the three and six months ended June 30, 2020, respectively.

License Agreement for Japan with Astellas

In November 2009, the Company entered into a license agreement with Astellas, as amended, to develop and commercialize linaclotide for the treatment of IBS-C, CIC and other GI conditions in Japan (the "2009 License Agreement with Astellas"). Astellas is responsible for all activities relating to development, regulatory approval and commercialization in Japan as well as funding the associated costs and the Company was required to participate on a joint development committee over linaclotide's development period. Under the 2009 License Agreement with Astellas, the Company received an upfront licensing fee of $30.0 million and three development milestone payments that totaled $45.0 million and has no remaining performance obligations.

In April 2017, the Company and Astellas entered into a commercial API supply agreement (the "Astellas Commercial Supply Agreement"). Pursuant to the Astellas Commercial Supply Agreement, the Company sold linaclotide API supply to Astellas at a contractually defined rate and recognized related revenue as sale of API. Under the 2009 License Agreement with Astellas, the Company received royalties which escalated based on sales volume, beginning in the low-twenties percent, less the transfer price paid for the API included in the product sold and other contractual deductions.

In August 2019, the Company and Astellas amended and restated the 2009 License Agreement with Astellas (the "Amended Astellas License Agreement"). This amendment to the 2009 License Agreement with Astellas was accounted for as a separate contract. Under the terms of the Amended Astellas License Agreement, the Company is no longer responsible for the supply of linaclotide API to Astellas, and Astellas assumed responsibility for its own supply of linaclotide API in Japan in 2020, other than minimal quantities of API the Company supplied to Astellas in 2020 relating to orders for linaclotide API placed by Astellas in 2019.

In connection with the execution of the Amended Astellas License Agreement, Astellas paid the Company a non-refundable, upfront payment of $10.0 million in August 2019. Further, Astellas, in lieu of the royalty payment terms set forth in the 2009 License Agreement with Astellas, is required to pay royalties to the Company at rates beginning in the mid-single digit percent and escalating to low-double-digit percent, based on aggregate annual net sales in Japan of products containing linaclotide API. These royalty payments are subject to reduction following the expiration of certain licensed patents and the occurrence of generic competition in Japan. The Company continued to supply linaclotide API for Japan during 2019 and 2020 at a contractually defined rate. Additionally, Astellas reimbursed the Company for the Company's performance of adverse event reporting services at a fixed monthly rate until such services were terminated in February 2020.

The Company identified the following performance obligations under the Amended Astellas License Agreement:

- delivery of the expanded license of intellectual property, including the applicable manufacturing know-how;
- obligation to supply linaclotide API for 2019; and
- adverse event reporting services.

The Company allocated the $10.0 million upfront payment to the delivery of the expanded license of intellectual property and recognized it as collaborative arrangements revenue at contract inception. The Company allocated the $20.4 million in remaining purchase orders for API to the obligation to supply linaclotide API to Astellas for 2019. Consideration for the supply of linaclotide API was recognized over the performance period as linaclotide API is shipped to Astellas. Consideration allocated to the adverse event reporting services was recognized as such services were provided over the performance period based on the amount to which the Company has a right to invoice.

Royalties on sales of LINZESS in Japan relate predominantly to the license granted to Astellas. Accordingly, the Company applies the sales-based royalty exception and records royalties on sales of LINZESS in Japan in the period earned based on royalty reports from its partner, if available, or the projected sales and historical trends.

The Company recognized $0.6 million and $1.1 million of royalty revenue during the three and six months ended June 30, 2021, respectively, under the Amended Astellas License Agreement. The Company recognized $0.5 million and $1.0 million in collaborative arrangements revenue during the three and six months ended June 30, 2020, respectively, under the Amended Astellas License Agreement, of which $0.5 million and $0.9 million related to royalties, respectively.

Collaboration Agreement for China (including Hong Kong and Macau) with AstraZeneca

In October 2012, the Company entered into a collaboration agreement with AstraZeneca to co-develop and co-commercialize linaclotide in the AstraZeneca License Territory (the "AstraZeneca Collaboration Agreement"). The collaboration provided AstraZeneca with an exclusive nontransferable license to exploit the underlying technology in the AstraZeneca License Territory. The parties shared 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.

In September 2019, the Company and AstraZeneca entered into an amendment and restatement of the AstraZeneca Collaboration Agreement (the "Amended AstraZeneca Agreement") under which AstraZeneca obtained the exclusive right to develop, manufacture and commercialize products containing linaclotide in the AstraZeneca License Territory (the "AstraZeneca License").

Under the Amended AstraZeneca Agreement, the Company is entitled to receive non-contingent payments totaling $35.0 million in three installments through 2024, of which $10.0 million was received in January 2021. In addition, AstraZeneca may be required to make milestone payments totaling up to $90.0 million contingent on the achievement of certain sales targets and will be required to pay tiered royalties to the Company at rates beginning in the mid-single-digit percent and increasing up to twenty percent based on the aggregate annual net sales of products containing linaclotide in the AstraZeneca License Territory. In connection with the Amended AstraZeneca Agreement, the Company and AstraZeneca entered into a transition services agreement ("AstraZeneca TSA") and an amended commercial supply agreement ("AstraZeneca CSA"). Under the terms of the AstraZeneca TSA, the Company will provide certain regulatory and administrative services for a term of approximately two years from the date of execution, unless earlier terminated or extended. Services performed are paid at a mutually agreed upon rate. Amounts for AstraZeneca TSA services are recorded as collaborative arrangements revenue. Under the terms of the AstraZeneca CSA, the Company supplied linaclotide API, finished drug product and finished goods for the Licensed Territory through March 31, 2020 at predetermined rates.

The Company evaluated the Amended AstraZeneca Agreement and determined that it would be accounted for as a separate contract because it adds a distinct good or service at an amount that reflects standalone selling price. The following performance obligations under the Amended AstraZeneca Agreement were identified:

- delivery of the expanded AstraZeneca License;
- AstraZeneca TSA services; and
- supply of linaclotide API, finished drug product and finished goods under the AstraZeneca CSA.

The Company determined that the non-contingent payments should be allocated to the delivery of the expanded AstraZeneca License. The Company determined that the performance obligation related to the transfer of the AstraZeneca License was satisfied as of the execution date of the Amended AstraZeneca Agreement. As a portion of the payments relating to the transfer of the AstraZeneca License are due significantly after the performance obligation was satisfied, the Company adjusted its transaction price for the significant financing component of $2.6 million. Accordingly, the Company recognized $32.4 million in 2019 relating to the delivery of the AstraZeneca License as collaborative arrangements revenue at contract inception and is recognizing the $2.6 million relating to the significant financing component as interest income through 2024 using the effective interest method. Consideration allocated to the AstraZeneca TSA services will be recognized as collaborative arrangements revenue as such services are provided over the performance period based on the amount to which the Company has a right to invoice. Consideration for the supply of linaclotide API, finished drug product and finished goods under the AstraZeneca CSA was recognized over the performance period as linaclotide API, finished drug product and finished goods were shipped to AstraZeneca.

During the three and six months ended June 30, 2021, the Company recognized an insignificant amount and $0.2 million, respectively, in collaborative arrangements revenue under the Amended AstraZeneca Agreement related to AstraZeneca TSA services. During the three and six months ended June 30, 2021, the Company recognized an insignificant amount and $0.2 million, respectively, in collaborative arrangements revenue under the Amended AstraZeneca Agreement related to royalties. Additionally, the Company recognized $0.6 million, in sales of API relating to the supply of reference standard material to AstraZeneca during each of the three and six months ended June 30, 2021. The Company recognized an insignificant amount and $0.3 million, respectively, in interest income related to the significant financing component of the Amended AstraZeneca Agreement during the three and six months ended June 30, 2021, respectively.

During the three and six months ended June 30, 2020, the Company recognized $0.2 million and $0.4 million, respectively, in collaborative arrangements revenue under the Amended AstraZeneca Agreement related to AstraZeneca TSA services. During the three and six months ended June 30, 2020, the Company recognized an insignificant amount and $0.2 million, respectively, in collaborative arrangements revenue under the Amended AstraZeneca Agreement related to royalties. Additionally, the Company recognized an insignificant amount and $5.5 million, in sales of API relating to the supply of linaclotide finished drug product and finished goods under the AstraZeneca CSA during the three and six months ended June 30, 2020, respectively. The Company recognized $0.2 million and $0.4 million, respectively, in interest income related to the significant financing component of the Amended AstraZeneca Agreement during the three and six months ended June 30, 2020.

Co-promotion and Other Agreements

Disease Education and Promotional Agreement with Alnylam

In August 2019, the Company and Alnylam entered into a disease education and promotional agreement for Alnylam's GIVLAARI, and this agreement was subsequently amended in December 2020 (the "Alnylam Agreement"). GIVLAARI was approved by the U.S. FDA in November 2019 for the treatment of adult patients with AHP. Under the terms of the Alnylam Agreement, the Company's sales force is performing disease awareness activities and sales detailing activities for GIVLAARI to gastroenterologists and health care practitioners to whom they detail LINZESS in the first position over the term of the agreement, which is approximately three years. In June 2021, the Alnylam Agreement was terminated with an effective termination date of September 30, 2021.

Under the Alnylam Agreement, the Company received service fees, totaling $5.5 million for services rendered through December 31, 2020. In connection with the amendment of the Alnylam Agreement, beginning in 2021, the Company no longer receives service fees. The Company is eligible to receive royalties based on a percentage of net sales of GIVLAARI that are directly attributable to the Company's promotional efforts over the term of the agreement. The Company identified the following performance obligation under the Alnylam Agreement:

- performance of disease education activities for AHP and performance of sales details for GIVLAARI (together "Givosiran Education and Promotion Activities").

The Company allocated the service fees to the performance of Givosiran Education and Promotion Activities and recognized collaborative arrangements revenue through December 31, 2020 as the services were performed based on the amount to which the Company had a right to invoice. Royalties are recognized as collaborative arrangements revenue for Givosiran Education and Promotion Activities based on the amount to which the Company has a right to invoice when the associated constraints have been lifted.

During the three and six months ended June 30, 2021, the Company recognized $0.6 million and $1.1 million, respectively, in royalty revenue under the Alnylam Agreement. During the three and six months ended June 30, 2020, the Company recognized $1.1 million and $2.0 million, respectively, in collaborative arrangements revenue, of which $0.9 million and $1.8 million, respectively, related to the service fees and $0.2 million in each period related to royalties.

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 June 30, 2021 and December 31, 2020 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 for similar instruments in active markets, 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 may include 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. The Company periodically invests in certain reverse repurchase agreements, which are collateralized by Government Securities and Obligations for an amount not less than 102% of their principal amount. The Company does not record an asset or liability for the collateral as the Company is not permitted to sell or re-pledge the collateral. The collateral has at least the prevailing credit rating of U.S. Government Treasuries and Agencies. The Company utilizes a third-party custodian to manage the exchange of funds and ensure the collateral received is maintained at 102% of the reverse repurchase agreements principal amount on a daily basis.

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		
	June 30, 2021	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	$ 476,684	$ 476,684	—	—
Restricted cash:				
Money market funds	2,220	2,220	—	—
Convertible note hedges	11,262	—	—	11,262
Total assets measured at fair value	$ 490,166	$ 478,904	$ —	$ 11,262
Liabilities:				
Note hedge warrants	$ 11,061	$ —	—	11,061
Total liabilities measured at fair value	$ 11,061	$ —	$ —	$ 11,061

		Fair Value Measurements at Reporting Date Using		
	December 31, 2020	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	$ 349,014	$ 349,014	$ —	$ —
Restricted cash:				
Money market funds	2,221	2,221	—	—
Convertible note hedges	13,065	—	—	13,065
Total assets measured at fair value	$ 364,300	$ 351,235	$ —	$ 13,065
Liabilities:				
Note hedge warrants	$ 12,088	$ —	$ —	$ 12,088
Total liabilities measured at fair value	$ 12,088	$ —	$ —	$ 12,088

There were no transfers between fair value measurement levels during each of the three and six months ended June 30, 2021 or 2020.

Cash equivalents, accounts receivable, prepaid expenses and other current assets, accounts payable, accrued research and development costs, accrued expenses and other current liabilities and current portion of operating lease obligations at June 30, 2021 and December 31, 2020 are carried at amounts that approximate fair value due to their short-term maturities.

Convertible Note Hedges and Note Hedge Warrants with Respect to 2022 Convertible Notes

The Company's Convertible Note Hedges and the Note Hedge Warrants are recorded as derivative assets and liabilities, respectively, and are classified as Level 3 measurements 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 June 30, 2021 included the price per share of the Company's Class A Common Stock, expected terms of the derivative instruments, strike prices of the derivative instruments, risk-free interest rates, and expected 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.

The following inputs were used in the fair market valuation of the Convertible Note Hedges and Note Hedge Warrants as of June 30, 2021 and December 31, 2020:

	Six Months Ended June 30, 2021		Year Ended December 31, 2020	
	Convertible Note Hedges	Note Hedge Warrants	Convertible Note Hedges	Note Hedge Warrants
Risk-free interest rate [1]	0.1 %	0.2 %	0.1 %	0.1 %
Expected term	1.0	1.5	1.5	2.0
Stock price [2]	$ 12.87	$ 12.87	$ 11.39	$ 11.39
Strike price [3]	$ 14.51	$ 18.82	$ 14.51	$ 18.82
Common stock volatility [4]	39.0 %	46.1 %	46.7 %	50.3 %
Dividend yield [5]	— %	— %	— %	— %

(1) Based on U.S. Treasury yield curve, with terms commensurate with the expected 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 days of the quarters ended June 30, 2021 and December 31, 2020, respectively.
(3) As per the respective agreements for the Convertible Note Hedges and Note Hedge Warrants.
(4) Expected volatility based on historical volatility of the Company's Class A Common Stock.
(5) 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 Convertible Note Hedges and the Note Hedge Warrants are recorded at fair value at each reporting date and changes in fair value are recorded in other (expense) income, net within the Company's condensed consolidated statements of income.

The following table reflects the change in the Company's Level 3 Convertible Note Hedges and Note Hedge Warrants from December 31, 2020 through June 30, 2021 (in thousands):

	Convertible Note Hedges	Note Hedge Warrants
Balance at December 31, 2020	$ 13,065	$ (12,088)
Change in fair value, recorded as a component of (loss) gain on derivatives	(1,803)	1,027
Balance at June 30, 2021	$ 11,262	$ (11,061)

Convertible Senior Notes

In June 2015, the Company issued $335.7 million aggregate principal amount of its 2022 Convertible Notes. In August 2019, the Company issued $200.0 million aggregate principal amount of its 2024 Convertible Notes and $200.0 million aggregate principal amount of its 2026 Convertible Notes, and used a portion of the proceeds from such issuances to repurchase $215.0 million aggregate principal amount of its 2022 Convertible Notes. The Company separately accounted for the liability and equity components of each of the 2022 Convertible Notes, 2024 Convertible Notes, and 2026 Convertible Notes, by allocating the proceeds between the liability component and equity component (Note 8). The fair value of the respective convertible senior 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 respective convertible senior notes observed in market trading, which are Level 2 inputs.

The estimated fair value of the 2022 Convertible Notes was $131.1 million and $130.2 million as of June 30, 2021 and December 31, 2020, respectively. The estimated fair value of the 2024 Convertible Notes was $234.7 million and $222.3 million as of June 30, 2021 and December 31, 2020, respectively. The estimated fair value of the 2026 Convertible Notes was $239.2 million and $224.1 million as of June 30, 2021 and December 31, 2020, respectively.

Capped Calls with Respect to 2024 Convertible Notes and 2026 Convertible Notes

In connection with the issuance of the 2024 Convertible Notes and the 2026 Convertible Notes, the Company entered into the Capped Calls with certain financial institutions. The Capped Calls cover 29,867,480 shares of Class A Common Stock (subject to anti-dilution and certain other adjustments), which is the same number of shares of Class A Common Stock that initially underlie the 2024 Convertible Notes and the 2026 Convertible Notes. The Capped Calls have an initial strike price of approximately $13.39 per share, which corresponds to the initial conversion price of the 2024 Convertible Notes and the 2026 Convertible Notes, and have a cap price of approximately $17.05 per share (Note 8). The strike price and cap price are subject to anti-dilution adjustments generally similar to those applicable to the 2024 Convertible Notes and the 2026 Convertible Notes. These instruments meet the conditions outlined in ASC Topic 815, *Derivatives and Hedging* ("ASC 815"), to be classified in stockholders' equity and are not subsequently remeasured as long as the conditions for equity classification continue to be met (Note 8).

6. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consisted of the following (in thousands):

	June 30, 2021	December 31, 2020
Accrued incentive compensation	$ 6,879	$ 8,719
Accrued vacation	2,400	2,625
Professional fees	1,283	530
Salaries	972	627
Other employee benefits	438	1,442
Restructuring liabilities	2,124	10,510
Other	2,157	2,033
Total accrued expenses and other current liabilities	$ 16,253	$ 26,486

As of June 30, 2021, other accrued expenses of $2.2 million included $1.5 million of uninvoiced vendor liabilities and $0.3 million of accrued interest expense. As of December 31, 2020, other accrued expenses of $2.0 million included $1.6 million of uninvoiced vendor liabilities and $0.3 million of accrued interest.

7. Leases

The Company's lease portfolio for the three and six months ended June 30, 2021 includes: an office lease for its current headquarters location, a data center colocation lease, vehicle leases for its salesforce representatives, and leases for computer and office equipment.

The Company's office lease and vehicle lease require letters of credit to secure the Company's obligations under the lease agreements totaling $2.2 million and are collateralized by money market accounts recorded as restricted cash on the Company's condensed consolidated balance sheets as of June 30, 2021 and December 31, 2020.

Lease cost is recognized on a straight-line basis over the lease term. The components of lease cost for the three and six months ended June 30, 2021 and 2020 are as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Operating lease cost	$ 630	$ 633	$ 1,261	$ 1,266
Short-term lease cost	214	360	428	732
Total lease cost	$ 844	$ 993	$ 1,689	$ 1,998

Supplemental information related to leases for the periods reported is as follows:

	Six Months Ended June 30,	
	2021	2020
Cash paid for amounts included in the measurement of lease liabilities (in thousands)	$ 778	$ 86
Weighted-average remaining lease term of operating leases (in years)	8.8	9.7
Weighted-average discount rate of operating leases	5.8 %	5.8 %

Future minimum lease payments under non-cancelable operating leases as of June 30, 2021 are as follows (in thousands):

	Operating Lease Payments
2021[(1)]	$ 1,578
2022	3,129
2023	3,065
2024	3,126
2025	3,189
2026 and thereafter	14,855
Total future minimum lease payments	28,942
Less: present value adjustment	(6,387)
Operating lease liabilities at June 30, 2021	22,555
Less: current portion of operating lease liabilities	(3,161)
Operating lease liabilities, net of current portion	$ 19,394

(1) For the six months ending December 31, 2021.

Summer Street Lease

In June 2019, the Company entered into a non-cancelable operating lease (the "Summer Street Lease") for approximately 39,000 square feet of office space on the 23rd floor of 100 Summer Street, Boston, Massachusetts, which began serving as the Company's headquarters in October 2019, replacing its prior headquarters at 301 Binney Street in Cambridge, Massachusetts. The Summer Street Lease terminates on June 11, 2030 and includes a 2% annual rent escalation, free rent periods, a tenant improvement allowance, and an option to extend the term of the lease for an additional five years at a market base rental rate. The rent expense, inclusive of the escalating rent payments and lease incentives, is recognized on a straight-line basis over the lease term.

At lease inception, the Company recorded a right-of-use asset and a lease liability using an incremental borrowing rate of 5.8%. At June 30, 2021, the balances of the right-of-use asset and operating lease liability were $16.0 million and $22.3 million, respectively. At December 31, 2020, the balances of the right-of-use asset and operating lease liability were $16.6 million and $23.2 million, respectively.

Lease costs recorded during the three and six months ended June 30, 2021 were $0.6 million and $1.3 million, respectively. Lease costs recorded during the three and six months ended June 30, 2020 were $0.7 million and $1.3 million, respectively.

8. Notes Payable

2.25% Convertible Senior Notes due 2022

In June 2015, the Company issued $335.7 million aggregate principal amount of the 2022 Convertible Notes. The Company received net proceeds of $324.0 million from the sale of the 2022 Convertible Notes, after deducting fees and expenses of $11.7 million. The Company used $21.1 million of the net proceeds from the sale of the 2022 Convertible 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 Convertible Notes are governed by an indenture (the "2022 Indenture") between the Company and U.S. Bank National Association, as trustee (the "Trustee"). The 2022 Convertible 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. The 2022 Convertible Notes will mature on June 15, 2022, unless earlier converted or repurchased. The Company may settle conversions of the 2022 Convertible Notes through payment or delivery, as the case may be, of cash, shares of the Company's Class A Common Stock 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 2022 Indenture). The initial conversion rate for the 2022 Convertible Notes was 60.3209 shares of Class A Common Stock (subject to adjustment as provided for in the 2022 Indenture) per $1,000 principal amount of the 2022 Convertible Notes, which was equal to an initial conversion price of $16.58 per share and 20,249,665 shares.

In connection with the Separation, in April 2019, the conversion rate under the 2022 Indenture was adjusted to equal 68.9172 shares of Class A Common Stock per $1,000 principal amount of the 2022 Convertible Notes, which is equal to an adjusted conversion price of $14.51 per share and 23,135,435 shares.

Holders of the 2022 Convertible Notes may convert their 2022 Convertible 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 Convertible 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 2022 Indenture) per $1,000 principal amount of the 2022 Convertible 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 Convertible Notes on each such trading day; or

- upon the occurrence of specified corporate events described in the 2022 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 Convertible Notes, in multiples of $1,000 principal amount, at the option of the holder regardless of the foregoing circumstances.

Upon the occurrence of certain fundamental changes, as described in the 2022 Indenture, holders of the 2022 Convertible Notes may require the Company to repurchase for cash all or part of their 2022 Convertible Notes at a repurchase price equal to 100% of the principal amount of the 2022 Convertible Notes to be repurchased, plus accrued and unpaid interest. If a make-whole fundamental change, as described in the 2022 Indenture, occurs and a holder elects to convert its 2022 Convertible 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 2022 Indenture.

The 2022 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 2022 Indenture provides for customary events of default. In the case of an event of default with respect to the 2022 Convertible Notes arising from specified events of bankruptcy or insolvency, all outstanding 2022 Convertible Notes will become due and payable immediately without further action or notice. If any other event of default with respect to the 2022 Convertible Notes under the 2022 Indenture occurs or is continuing, the Trustee or holders of at least 25% in aggregate principal amount of the then outstanding 2022 Convertible Notes may declare the principal amount of the 2022 Convertible Notes to be immediately due and payable. Notwithstanding the foregoing, the 2022 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 2022 Indenture consists exclusively of the right to receive additional interest on the 2022 Convertible 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 Convertible 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 Convertible 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 conversion feature. The equity component of the 2022 Convertible Notes was recognized as a debt discount and represents the difference between the gross proceeds from the issuance of the 2022 Convertible Notes and the fair value of the liability component of the 2022 Convertible Notes on their respective dates of issuance. The debt discount is amortized to interest expense using the effective interest method over seven years, or the expected life of the 2022 Convertible Notes. The equity component is not remeasured as long as it continues to meet the conditions for equity classification.

In connection with the issuance of the 2024 Convertible Notes and the 2026 Convertible Notes in August 2019, the Company repurchased $215.0 million aggregate principal amount of the 2022 Convertible Notes. The 2022 Convertible Notes were repurchased at a premium totaling $227.3 million. The Company recognized a loss on extinguishment of debt of $23.4 million during the year ended December 31, 2019 related to the prepayment premium and proportional write-off of the 2022 Convertible Notes unamortized debt issuance costs and unamortized debt discount. Additionally, the repurchase resulted in a reduction to additional paid-in capital of $27.0 million during the year ended December 31, 2019 related to the equity component of the 2022 Convertible Notes.

0.75% Convertible Senior Notes due 2024 and 1.50% Convertible Senior Notes due 2026

In August 2019, the Company issued $200.0 million aggregate principal amount of the 2024 Convertible Notes and $200.0 million aggregate principal amount of the 2026 Convertible Notes. The Company received net proceeds of $391.0 million from the sale of the 2024 Convertible Notes and 2026 Convertible Notes, after deducting fees and expenses of $9.0 million. The Company used $25.2 million of the net proceeds from the sale of the 2024 Convertible Notes and 2026 Convertible Notes to pay the cost of the Capped Calls, as described below. For purposes of this section, "Notes" refer to the 2024 Convertible Notes and the 2026 Convertible Notes, collectively.

The 2024 Convertible Notes and 2026 Convertible Notes were issued by the Company on August 12, 2019, pursuant to separate Indentures, each dated as of such date (each an "Indenture" and together the "Indentures"), between the Company and the Trustee. The 2024 Convertible Notes bear cash interest at the annual rate of 0.75% and the 2026 Convertible Notes bear cash interest at the annual rate of 1.50%, each payable on June 15 and December 15 of each year. The 2024 Convertible Notes will mature on June 15, 2024 and the 2026 Convertible Notes will mature on June 15, 2026, unless earlier converted or repurchased. The Company will settle conversions of the 2024 Convertible Notes and 2026 Convertible Notes through payment or delivery, as the case may be, of cash, shares of the Company's Class A Common Stock 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 applicable Indenture). The initial conversion rate for each of the 2024 Convertible Notes and the 2026 Convertible Notes is 74.6687 shares of Class A Common Stock (subject to adjustment as provided for in the applicable Indenture) per $1,000 principal amount of the 2024 Convertible Notes and 2026 Convertible Notes, which is equal to an initial conversion price of $13.39 per share.

Holders of the 2024 Convertible Notes and 2026 Convertible Notes may convert their Notes at their option at any time prior to the close of business on the business day immediately preceding December 15, 2023, with respect to

the 2024 Convertible Notes, and December 15, 2025, with respect to the 2026 Convertible Notes, in multiples of $1,000 principal amount, only under the following circumstances:

- during any calendar quarter commencing after the calendar quarter ending on December 31, 2019 (and only during such calendar quarter), if the last reported sale price of 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 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 each Indenture) per $1,000 principal amount of Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of Class A Common Stock and the conversion rate for the Notes on each such trading day; or

- upon the occurrence of specified corporate events described in each Indenture.

On or after December 15, 2023, with respect to the 2024 Convertible Notes, and December 15, 2025, with respect to the 2026 Convertible Notes, until the close of business on the second scheduled trading day immediately preceding the applicable maturity date, the holders of the Notes may convert their Notes, in multiples of $1,000 principal amount, regardless of the foregoing conditions.

Upon the occurrence of fundamental changes, as described in the Indentures, prior to the maturity date of the respective Notes, holders of such Notes may require the Company to repurchase for cash all or a portion of their Notes at a repurchase price equal to 100% of the principal amount of the Notes to be repurchased, plus accrued and unpaid interest. If a make-whole fundamental change, as described in the Indentures, occurs and a holder elects to convert its 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 Indentures.

The Indentures do 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 Indentures provide for customary events of default. In the case of an event of default with respect to a series of Notes arising from specified events of bankruptcy or insolvency, all outstanding Notes of such series will become due and payable immediately without further action or notice. If any other event of default with respect to a series of Notes under the relevant Indenture occurs or is continuing, the Trustee or holders of at least 25% in aggregate principal amount of the then outstanding Notes of such series may declare the principal amount of such Notes to be immediately due and payable.

In accordance with accounting guidance for debt with conversion and other options, the Company separately accounted for the liability and equity components of the 2024 Convertible Notes and the 2026 Convertible Notes by allocating the proceeds between the liability components and the embedded conversion options, or equity components, due to the Company's ability to settle the 2024 Convertible Notes and the 2026 Convertible 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 respective liability components were calculated by measuring the fair value of a similar liability that does not have an associated conversion feature. The respective equity components of the 2024 Convertible Notes and the 2026 Convertible Notes were recognized as a debt discount and represent the difference between the gross proceeds from the issuance of the 2024 Convertible Notes and 2026 Convertible Notes and the fair value of the liability of the 2024 Convertible Notes and 2026 Convertible Notes on their respective dates of issuance. The debt discount is amortized to interest expense using the effective interest method over approximately five and seven years, or the expected life of the 2024 Convertible Notes and the 2026 Convertible Notes, respectively. The respective equity components are not remeasured as long as they continue to meet the conditions for equity classification.

The Company's outstanding balances for the convertible senior notes as of June 30, 2021 and December 31, 2020 consisted of the following (in thousands):

	June 30, 2021	December 31, 2020
Liability component:		
Principal:		
2022 Convertible Notes	$ 120,699	$ 120,699
2024 Convertible Notes	200,000	200,000
2026 Convertible Notes	200,000	200,000
Less: unamortized debt discount	(72,959)	(83,900)
Less: unamortized debt issuance costs	(5,733)	(6,543)
Net carrying amount	$ 442,007	$ 430,256
Equity component:		
2022 Convertible Notes	19,807	19,807
2024 Convertible Notes	41,152	41,152
2026 Convertible Notes	51,350	51,350
Total equity component	$ 112,309	$ 112,309

In connection with the issuance of the 2022 Convertible Notes, the Company incurred $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 $4.0 million were recorded as a reduction to additional paid-in capital upon issuance. The portion of these costs allocated to the liability components totaling $7.7 million were recorded as a reduction in the carrying value of the debt on the consolidated balance sheet and are amortized to interest expense using the effective interest method over the expected life of the 2022 Convertible Notes. In connection with the partial repurchase of the 2022 Convertible Notes, the Company recorded a loss on extinguishment of debt of $23.4 million, of which $2.8 million related to the initial debt issuance costs, during the year ended December 31, 2019.

The Company determined the expected life of the 2022 Convertible Notes was equal to their seven-year term. The effective interest rate on the liability components of the 2022 Convertible Notes for the period from the date of issuance through June 30, 2019 was 9.34%. From the date of the partial repurchase of the 2022 Convertible Notes in August 2019 through June 30, 2021, the effective interest rate on the liability component of the 2022 Convertible Notes was 9.9%.

In connection with the issuance of the 2024 Convertible Notes and the 2026 Convertible Notes, the Company incurred $9.0 million of debt issuance costs, which primarily consisted of initial purchaser's 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 $2.1 million were recorded as a reduction to additional paid-in capital. The portion of these costs allocated to the liability components totaling $6.9 million were recorded as a reduction in the carrying value of the debt on the consolidated balance sheet and are amortized to interest expense using the effective interest method over the expected lives of the 2024 Convertible Notes and the 2026 Convertible Notes.

The Company determined the expected life of the 2024 Convertible Notes and the 2026 Convertible Notes was equal to their approximately five and seven-year terms, respectively. The effective interest rates on the liability components of the 2024 Convertible Notes and the 2026 Convertible Notes for the period from the date of issuance through June 30, 2021 was 6.4% and 6.7%, respectively.

The following table sets forth total interest expense recognized related to convertible senior notes during the three and six months ended June 30, 2021 and 2020 (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Contractual interest expense	$ 1,804	$ 1,802	$ 3,607	$ 3,609
Amortization of debt issuance costs	412	360	811	705
Amortization of debt discount	5,516	5,156	10,940	10,224
Total interest expense	$ 7,732	$ 7,318	$ 15,358	$ 14,538

Future minimum payments under the convertible senior notes as of June 30, 2021, are as follows (in thousands):

2021[(1)]	$ 3,608
2022	126,557
2023	4,500
2024	203,750
2025	3,000
2026	201,500
Total future minimum payments under the convertible senior notes	542,915
Less: amounts representing interest	(22,216)
Less: unamortized debt discount	(72,959)
Less: unamortized debt issuance costs	(5,733)
Convertible senior notes balance	$ 442,007

(1) For the six months ending December 31, 2021.

As of June 30, 2021, $120.7 million in aggregate principal amount of the 2022 Convertible Notes was due within the next 12 months and is classified as current liabilities on the Company's condensed consolidated balance sheets.

Convertible Note Hedge and Note Hedge Warrant Transactions with Respect to 2022 Convertible Notes

To minimize the impact of potential dilution to the Company's Class A common stockholders upon conversion of the 2022 Convertible 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 Convertible Notes. The Convertible Note Hedges had an initial exercise price of $16.58 per share, subject to adjustment upon the occurrence of certain corporate events or transactions, and are exercisable if the 2022 Convertible Notes are converted. In connection with the adjustment to the conversion rate of the 2022 Convertible Notes related to the Separation in April 2019, the exercise price of the Convertible Note Hedges was adjusted to $14.51 per share and the number of shares underlying the Convertible Note Hedges was increased to 23,135,435 shares. If upon conversion of the 2022 Convertible 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 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 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 Hedge Warrants was initially $21.50 per share, subject to adjustment, and such warrants are exercisable over the 150 trading day period beginning on September 15, 2022. In connection with the Separation in April 2019, the exercise price was adjusted to $18.82 per share and the number of shares underlying the Note Hedge Warrants was increased to 23,135,435 shares. 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 Convertible Notes. Holders of the Convertible Note Hedges and the Note Hedge Warrants do not have any rights with respect to the 2022 Convertible Notes. The Company paid $91.9 million for the Convertible Note Hedges and received $70.8 million for the Note Hedge Warrants, resulting in a net cost to the Company of $21.1 million.

In August 2019, concurrently with the repurchase of $215.0 million aggregate principal amount of the 2022 Convertible Notes, the Company terminated the respective portion of the Convertible Note Hedges and Note Hedge Warrants. The Company received $3.2 million of termination payments from the counterparties of the Convertible Note Hedges and Note Hedge Warrants.

The Convertible Note Hedges and Note Hedge Warrants are accounted for as derivative assets and liabilities, respectively, in accordance with ASC 815, and are remeasured to fair value at each reporting date (Note 5).

As of June 30, 2021, the Convertible Note Hedges and Note Hedge Warrants were classified as current assets and non-current liabilities, respectively, on the Company's condensed consolidated balance sheets. As of June 30, 2020, the Convertible Note Hedges and Note Hedge Warrants were classified as non-current assets and non-current liabilities, respectively, on the Company's condensed consolidated balance sheets.

Capped Calls with Respect to 2024 Convertible Notes and 2026 Convertible Notes

To minimize the impact of potential dilution to the Company's Class A common stockholders upon conversion of the 2024 Convertible Notes and the 2026 Convertible Notes, the Company entered into separate Capped Calls in connection with the issuance of the 2024 Convertible Notes and the 2026 Convertible Notes. The Company paid the counterparties $25.2 million to enter into the Capped Calls.

The Capped Calls have an initial strike price of $13.39 per share, which corresponds to the initial conversion price of the 2024 Convertible Notes and the 2026 Convertible Notes and is subject to anti-dilution adjustments generally similar to those applicable to the 2024 Convertible Notes and the 2026 Convertible Notes. The Capped Calls have a cap price of $17.05 per share, subject to certain adjustments. The Capped Calls cover 29,867,480 shares of Class A Common Stock (subject to anti-dilution and certain other adjustments), which is the same number of shares of Class A Common Stock that initially underlie the 2024 Convertible Notes and the 2026 Convertible Notes.

The Capped Calls are expected generally to reduce the potential dilution to the Class A Common Stock upon conversion of the 2024 Convertible Notes and the 2026 Convertible Notes in the event that the market price per share of Class A Common Stock is greater than the strike price of the Capped Calls as adjusted pursuant to the anti-dilution adjustments. If, however, the market price per share of Class A Common Stock exceeds the cap price of the Capped Calls, there would nevertheless be dilution upon conversion of the 2024 Convertible Notes and the 2026 Convertible Notes to the extent that such market price exceeds the cap price of the Capped Calls.

The Capped Calls are separate transactions entered into by and between the Company and the Capped Calls counterparties and are not part of the terms of the 2024 Convertible Notes or the 2026 Convertible Notes. Holders of the 2024 Convertible Notes and the 2026 Convertible Notes do not have any rights with respect to the Capped Calls. The Company recorded a reduction to additional paid-in capital of $25.0 million during the year ended December 31, 2019 related to the premium payments for the Capped Calls. Additionally, the Company recorded an $0.2 million reduction to equity related to transaction costs incurred in connection with the Capped Calls during the year ended December 31, 2019. These instruments meet the conditions outlined in ASC 815 to be classified in stockholders' equity and are not subsequently remeasured as long as the conditions for equity classification continue to be met.

9. Employee Stock Benefit Plans

The Company has several share-based compensation plans under which stock options, restricted stock awards, restricted stock units and other share-based awards are available for grant to employees, officers, directors and consultants of the Company.

The following table summarizes share-based compensation expense (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Share-based compensation expense:				
Research and development	$ 1,134	$ 1,405	$ 2,377	$ 2,801
Selling, general and administrative	3,455	5,686	7,498	10,654
Restructuring expenses	—	—	110	—
Total share-based compensation expense	$ 4,589	$ 7,091	$ 9,985	$ 13,455

Restructuring expenses include modifications to share-based awards held by employees impacted by certain workforce reductions (Note 13).

10. Share Repurchase Plan

In May 2021, the Company's Board of Directors authorized a program to repurchase up to $150.0 million of the Company's Class A common stock. Unless it is terminated or suspended prior to its expiration, the stock repurchase program will remain in effect until December 31, 2022. The timing and amount of any repurchases will be determined based on market conditions, stock price and other factors. The stock repurchase program may be modified, suspended or discontinued at any time without notice. Repurchases may be made through a variety of methods, including open market purchases, privately negotiated transactions, block trades, exchange transactions, accelerated share repurchase transactions, or any combination of such methods.

The Company had not repurchased any shares of Class A common stock under the stock repurchase program as of June 30, 2021.

11. Income Taxes

For the three and six months ended June 30, 2021, the Company recorded an income tax benefit of $336.9 million and $336.5 million, respectively. The income tax benefit primarily pertains to the discrete income tax benefit of $337.8 million related to the release of the valuation allowance on the majority of the Company's tax attributes and other deferred tax assets, partially offset by state income taxes in certain states which have temporarily disallowed the use of net operating losses to offset taxable income. There was no income tax provision for either the three or six months ended June 30, 2020. The income tax provision during interim periods is computed by applying an estimated annual effective income tax rate to year-to-date pre-tax income, plus adjustments for significant unusual or infrequently occurring items, in accordance with ASC 740-270, *Income Taxes – Interim Reporting*. There was an income tax benefit for the three and six months ended June 30, 2021 rather than an expense equal to the U.S. federal statutory rate of 21% primarily due to the discrete income tax benefit related to the release of the valuation allowance on the majority of our tax attributes and other deferred tax assets.

The Company recognizes deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities. These differences are measured using the enacted statutory tax rates that are expected to be in effect for the years in which differences are expected to reverse. On a periodic basis, the Company reassesses any valuation allowances that it maintains on its deferred tax assets, weighing positive and negative evidence to assess the recoverability of the deferred tax assets. During the three months ended June 30, 2021, the Company reassessed the valuation allowance noting the shift of positive evidence outweighing negative evidence, including: continued strong prescription demand growth of LINZESS, nine consecutive quarters of profitability of a GI focused business since completing the tax-free spin-off of Cyclerion, and expectations regarding future profitability. After assessing both the positive evidence and negative evidence, the Company determined it was more likely than not that it will realize the majority of its deferred tax assets and during the three months ended June 30, 2021 released the majority of its valuation allowance, as a discrete item, for the deferred tax assets that are expected to be utilized in future years. The Company will maintain a valuation allowance on certain tax credits that are expected to expire prior to utilization.

12. Related Party Transactions

The Company previously reflected balances with Allergan plc prior to its acquisition by AbbVie in May 2020 as related party receivables and payables, as appropriate. Following the acquisition of Allergan plc by AbbVie, the Company determined that AbbVie is not a related party to the Company.

In connection with the Separation, the Company executed certain contracts with Cyclerion, whose President and Chief Scientific Officer at the time of the Separation became a member of the Company's Board of Directors in April 2019. As of December 31, 2020, the Company determined that Cyclerion was no longer considered a related party. The Company incurred $0.8 million and $1.8 million, respectively, of research and development expenses under a development agreement with Cyclerion during the three and six months ended June 30, 2020. Additionally, the Company incurred an insignificant amount of selling, general and administrative expenses for services provided by Cyclerion and recorded an insignificant amount of other income for services provided to Cyclerion during the three months ended March 31, 2020 under transition services agreements, which terminated on March 31, 2020.

13. Workforce Reduction and Restructuring

In September 2020, the Company announced that one of its two identical Phase III trials evaluating IW-3718 in refractory GERD did not meet certain criteria, including the study's primary endpoint of achieving a statistically significant improvement in heartburn severity. Based on these findings, the Company discontinued development of IW-3718. In connection with this decision, the Company reduced its workforce by approximately 100 full-time employees. This workforce reduction affected both field-based and home-office employees, including the relevant general and administrative support functions, and was substantially completed during the fourth quarter of 2020. During the three and six months ended June 30, 2021, the Company reversed $0.3 million and recorded an insignificant amount, respectively, of restructuring expenses primarily comprised of employee severance, benefits and related costs.

The following table summarizes the accrued liabilities activity recorded in connection with the reduction in workforce and related restructuring activities during the six months ended June 30, 2021 (in thousands):

	Amounts Accrued at December 31, 2020	Charges	Amount Paid	Adjustments	Amounts Accrued at June 30, 2021
Employee severance, benefits and related costs	$ 10,902	$ 1,025	(9,056)	(594)	$ 2,277
Contract related costs	5	48	(53)	—	—
Total	$ 10,907	$ 1,073	$ (9,109)	$ (594)	$ 2,277

Item 2. ***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 condensed consolidated financial statements and the notes to those financial statements appearing elsewhere in this Quarterly Report on Form 10-Q and the audited consolidated financial statements and notes thereto included in our 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 Quarterly Report on Form 10-Q, our actual results may differ materially from those anticipated in these forward-looking statements.

Overview

We are a gastrointestinal, or GI, healthcare company dedicated to advancing the treatment of GI diseases and redefining the standard of care for GI patients. We are focused on the development and commercialization of innovative GI product opportunities in areas of significant unmet need, leveraging our demonstrated expertise and capabilities in GI diseases.

LINZESS® (linaclotide), our commercial product, is the first product approved by the United States Food and Drug Administration, or U.S. FDA, in a class of GI medicines called guanylate cyclase type C agonists and is indicated

for adult men and women suffering from irritable bowel syndrome with constipation, or IBS-C, or chronic idiopathic constipation, or CIC. LINZESS is available to adult men and women suffering from IBS-C or CIC in the United States, or the U.S., and Mexico and to adult men and women suffering from IBS-C in Japan and China. Linaclotide is available under the trademarked name CONSTELLA® to adult men and women suffering from IBS-C or CIC in Canada, and to adult men and women suffering from IBS-C in certain European countries.

We have strategic partnerships with leading pharmaceutical companies to support the development and commercialization of linaclotide throughout the world, including with AbbVie Inc. (together with its affiliates), or AbbVie, (successor to Allergan plc), in the U.S. and all countries worldwide other than China (including Hong Kong and Macau) and Japan, AstraZeneca AB (together with its affiliates), or AstraZeneca, in China (including Hong Kong and Macau) and Astellas Pharma Inc., or Astellas, in Japan.

On May 26, 2021, the Company and AbbVie entered into a settlement agreement with a generic drug manufacturer, Teva Pharmaceuticals USA, Inc. ("Teva"). Pursuant to the terms of the settlement, the Company and AbbVie will grant Teva a license to market a generic version of 72 mcg LINZESS beginning March 31, 2029 (subject to FDA approval), unless certain limited circumstances, customary for settlement agreements of this nature, occur.

To date, we have dedicated a majority of our activities to the research, development and commercialization of linaclotide, as well as to the research and development of our other product candidates. Prior to the year ended December 31, 2019, we incurred net losses in each year since our inception in 1998. For the three and six months ended June 30, 2021, we recorded net income of $391.3 million and $431.2 million, respectively. As of June 30, 2021, we had an accumulated deficit of approximately $1.0 billion. We are unable to predict the extent of any future losses or guarantee that our company will be able to maintain positive cash flows.

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 operate in one reportable business segment—human therapeutics.

Financial Operations Overview

Revenues. Our revenues are generated primarily through our collaborative arrangements and license agreements related to research and development and commercialization of linaclotide, as well as co-promotion arrangements in the U.S.

The majority of our revenues are generated from the profits of LINZESS in the U.S. We record our share of the net profits and losses from the sales of LINZESS in the U.S. less commercial expenses on a net basis and present the settlement payments to and from AbbVie 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 AbbVie 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 and is commercialized.

Cost of Revenues. Cost of revenues primarily includes costs related to the sales of linaclotide API, finished drug product, and finished goods to our partners.

Research and Development Expense. The core of our research and development strategy is to leverage our demonstrated expertise and capabilities in GI diseases to bring multiple medicines to patients. Research and development expense consists of expenses incurred in connection with the research into and development of product candidates. These expenses 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, and licensing fees for our product candidates. We record all research and development expenses as incurred.

Research and development expenses include amounts owed to AbbVie on an ongoing basis under cost-sharing provisions in our collaboration agreement for linaclotide. Reimbursements received for research and development activities under this agreement are netted against research and development expenses.

Linaclotide. Our commercial product, LINZESS, is commercially available in the U.S. for the treatment of IBS-C or CIC in adults. Linaclotide is also available to adult men and women suffering from IBS-C or CIC in certain countries of the world, including China, Japan, and in a number of E.U. countries.

We and AbbVie continue to explore ways to enhance the clinical profile of LINZESS by studying linaclotide in additional indications, populations and formulations to assess its potential to treat various conditions. In January 2017, the U.S. FDA approved a 72 mcg dose of LINZESS for adults with CIC, which became available in the U.S. in March 2017. In June 2019, we announced positive topline data from our Phase IIIb trial demonstrating the efficacy and safety of linaclotide 290 mcg on the overall abdominal symptoms of bloating, pain and discomfort in adult patients with IBS-C. In September 2020, based on the Phase IIIb data, the U.S. FDA approved our supplemental New Drug Application to include a more comprehensive description of the effects of LINZESS in its approved label.

In connection with the U.S. FDA approval of LINZESS, we were required to conduct certain nonclinical and clinical studies including those aimed at further understanding the safety profile of linaclotide. We and AbbVie completed such additional studies and determined that: (a) orally administered linaclotide was not detected in breast milk, (b) there is little or no evidence of any potential for antibodies to be developed to linaclotide, and (c) there were no signs or symptoms of an immunogenic response to linaclotide. The results observed do not alter the known safety profile for linaclotide based on the clinical studies and post-marketing experience to-date. In addition, we and AbbVie have established a nonclinical and clinical post-marketing plan with the U.S. FDA to understand the safety and efficacy of LINZESS in pediatric patients. Clinical pediatric programs in IBS-C and functional constipation are ongoing.

MD-7246. We and AbbVie were developing MD-7246, a delayed release formulation of linaclotide. In May 2020, we and AbbVie announced top-line data from a Phase II trial evaluating MD-7246 in adult patients with abdominal pain associated with IBS-D. The Phase II trial did not meet its primary or key secondary endpoints. Based on these findings, we and AbbVie discontinued the development of MD-7246.

IW-3718. We were developing IW-3718, a gastric retentive formulation of a bile acid sequestrant, for the potential treatment of refractory gastroesophageal reflux disease, or refractory GERD. In September 2020, we announced that one of our two identical Phase III trials evaluating IW-3718 in refractory GERD did not meet the pre-specified criteria associated with a planned early efficacy assessment. Following the assessment from an independent data monitoring committee, we unblinded the data and confirmed that IW-3718-302 did not meet the criteria, including the study's primary endpoint of achieving a statistically significant improvement in heartburn severity. Based on these findings, we discontinued development of IW-3718.

Early research and development. Our early research and development efforts have been focused on supporting our development-stage GI programs, including exploring strategic options for further development of certain of our internal programs, as well as evaluating external development-stage GI programs. Included in early research and development are costs relating to the development of IW-3300, a GC-C agonist, which is in pre-clinical development for the potential treatment of visceral pain conditions, including interstitial cystitis/bladder pain syndrome and endometriosis, as well as certain other expenses associated with historical programs.

The following table sets forth our research and development expenses related to our product pipeline for the three and six months ended June 30, 2021 and 2020, respectively (in thousands). These expenses relate primarily to compensation, benefits and other employee-related expenses and external costs associated with nonclinical studies and clinical trial costs for our product candidates. We allocate costs related to facilities, depreciation, share-based compensation, research and development support services and certain other costs directly to programs.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Linaclotide[1]	$ 5,184	$ 6,362	$ 10,550	$ 14,149
IW-3718	2,040	13,629	7,304	32,522
Early research and development	4,939	2,085	9,793	3,432
Total research and development expenses	$ 12,163	$ 22,076	$ 27,647	$ 50,103

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

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.

We and AbbVie are exploring development opportunities to enhance the clinical profile of LINZESS by studying linaclotide in additional indications, populations and formulations to assess its potential to treat various conditions. We cannot currently estimate with any degree of certainty the amount of time or money that we will be required to expend in the future on linaclotide for additional indications, populations or formulations.

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 within its currently approved indications; 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 U.S. 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 early research and development, including 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, and, even if approved, a product may face post-approval development and regulatory requirements;
- There may be substantial costs, delays and difficulties in successfully integrating externally developed product candidates into our business operations; and

- 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 Quarterly Report on Form 10-Q, 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.

We expect to invest in our development programs for the foreseeable future. We will continue to invest in linaclotide, including the investigation of ways to enhance the clinical profile within its currently approved indications, and the exploration of its potential utility in other indications, populations and formulations. We will continue to invest in our GI-focused product candidates as we advance them through pre-clinical and clinical trials, in addition to funding 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 legal costs of pursuing patent protection of our intellectual property, general and administrative related facility costs, insurance costs and professional fees for accounting, tax, consulting, legal and other 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 record all selling, general and administrative expenses as incurred.

We include AbbVie'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 AbbVie as collaboration expense or collaborative arrangements revenue, respectively.

Restructuring Expenses. Restructuring expenses pertain to workforce reduction and restructuring initiatives and are more fully described in Note 13, *Workforce Reduction and Restructuring*, to our condensed consolidated financial statements appearing elsewhere in this Quarterly Report on Form 10-Q.

Interest Expense. Interest expense consists primarily of cash and non-cash interest costs related to the convertible senior notes. Non-cash interest expense consists of amortization of the debt discount and debt issuance costs associated with our convertible senior notes.

Interest and Investment Income. Interest and investment income consists of interest earned on our cash and cash equivalents, as well as significant financing components of payments due from collaboration partners.

Gain (Loss) on Derivatives. In June 2015, we issued 2.25% Convertible Senior Notes due June 15, 2022, or the 2022 Convertible Notes, and in August 2019, we issued 0.75% Convertible Senior Notes due 2024, or the 2024 Convertible Notes, and 1.50% Convertible Senior Notes due 2026, or the 2026 Convertible Notes (together with the 2022 Convertible Notes and the 2024 Convertible Notes, the Convertible Senior Notes). In connection with the issuance of our 2022 Convertible Notes, we entered into convertible note hedge transactions, or the Convertible Note Hedges, and separate note hedge warrant transactions, or the Note Hedge Warrants, with certain financial institutions. Gain (loss) on derivatives consists of the change in fair value of the Convertible Note Hedges and Note Hedge Warrants, which are recorded at fair value at each reporting date and changes in fair value are recorded in our condensed consolidated statements of income. The Convertible Note Hedges and Note Hedge Warrants are more fully described in Note 8*, Notes Payable*, to our condensed consolidated financial statements appearing elsewhere in this Quarterly Report on Form 10-Q.

Income Taxes. We prepare our income tax provision based on our interpretation of the income tax accounting rules and each jurisdiction's enacted tax laws and regulations and record our income tax provision by applying our estimated annual effective tax rate to year-to-date pre-tax income, plus adjustments for significant unusual or infrequently occurring items. The difference between the recorded benefit for income taxes and the income tax provision

based on U.S. statutory tax rates was primarily attributable to the discrete income tax benefit related to the release of the valuation allowance on the majority of our tax attributes and other deferred tax assets.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations is based upon our condensed 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 assets and liabilities at the date of the condensed consolidated financial statements, and the amounts of revenues and expenses during the reported periods. 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.

During the three and six months ended June 30, 2021, there were no material changes to our critical accounting policies as reported in our Annual Report on Form 10-K for the year ended December 31, 2020, which was filed with the Securities and Exchange Commission on February 17, 2021, or the 2020 Annual Report on Form 10-K.

Results of Operations

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
	(in thousands)		(in thousands)	
Revenues:				
Collaborative arrangements revenue	$ 103,386	$ 89,423	$ 192,051	$ 163,868
Sale of active pharmaceutical ingredient	645	9	825	5,507
Total revenues	104,031	89,432	192,876	169,375
Cost and expenses:				
Cost of revenues	—	—	—	2,239
Research and development	12,163	22,076	27,647	50,103
Selling, general and administrative	27,052	34,643	54,704	71,093
Restructuring expenses	(282)	—	29	—
Total cost and expenses	38,933	56,719	82,380	123,435
Income from operations	65,098	32,713	110,496	45,940
Other (expense) income:				
Interest expense	(7,732)	(7,318)	(15,358)	(14,538)
Interest and investment income	172	276	368	1,053
Loss on derivatives	(3,166)	(467)	(776)	(3,933)
Other income	—	—	—	27
Other expense, net	(10,726)	(7,509)	(15,766)	(17,391)
Income before income taxes	54,372	25,204	94,730	28,549
Income tax benefit	336,931	—	336,499	—
Net income	$ 391,303	$ 25,204	$ 431,229	$ 28,549

Three and six months ended June 30, 2021 compared to three and six months ended June 30, 2020

Revenues

	Three Months Ended June 30,		Change		Six Months Ended June 30,		Change	
	2021	2020	$	%	2021	2020	$	%
	(dollars in thousands)				(dollars in thousands)			
Revenues:								
Collaborative arrangements revenue	$ 103,386	$ 89,423	$ 13,963	16 %	$ 192,051	$ 163,868	$ 28,183	17 %
Sale of active pharmaceutical ingredient	645	9	636	7,067 %	825	5,507	(4,682)	(85)%
Total revenues	$ 104,031	89,432	14,599	16 %	$ 192,876	$ 169,375	$ 23,501	14 %

Collaborative Arrangements Revenue. The increase in revenue from collaborative arrangements of $14.0 million for the three months ended June 30, 2021 compared to the three months ended June 30, 2020 was primarily related to a $13.8 million increase in our share of the net profits from the sale of LINZESS in the U.S. driven by increased prescription demand and inventory fluctuations, partially offset by decreased net price.

The increase in revenue from collaborative arrangements of $28.2 million for the six months ended June 30, 2021 compared to the six months ended June 30, 2020 was primarily related to a $28.6 million increase in our share of the net profits from the sale of LINZESS in the U.S. driven by increased prescription demand and inventory fluctuations, partially offset by decreased net price.

Sale of Active Pharmaceutical Ingredient. The increase in sale of API of $0.6 million for the three months ended June 30, 2021 compared to the three months ended June 30, 2020 was primarily due to sales of reference standard material to AstraZeneca in China in connection with the Amended AstraZeneca Agreement.

The decrease in sale of API of $4.7 million for the six months ended June 30, 2021 compared to the six months ended June 30, 2020 was primarily due to a decrease in sales of API, finished drug product, and finished goods to

AstraZeneca in China in connection with the Amended AstraZeneca Agreement, under which commercial supply obligations transitioned to AstraZeneca in the second quarter of 2020.

Cost and Expenses

	Three Months Ended June 30,		Change		Six Months Ended June 30,		Change	
	2021	2020	$	%	2021	2020	$	%
	(dollars in thousands)				(dollars in thousands)			
Cost and expenses:								
Cost of revenues	$ —	$ —	$ —	— %	$ —	$ 2,239	$ (2,239)	(100)%
Research and development	12,163	22,076	(9,913)	(45)%	27,647	50,103	(22,456)	(45)%
Selling, general and administrative	27,052	34,643	(7,591)	(22)%	54,704	71,093	(16,389)	(23)%
Restructuring expenses	(282)	—	(282)	100 %	29	—	29	100 %
Total cost and expenses	$ 38,933	$ 56,719	$ (17,786)	(31)%	$ 82,380	$ 123,435	$ (41,055)	(33)%

Cost of Revenues. The decrease of $2.2 million for the six months ended June 30, 2021 compared to the six months ended June 30, 2020 was related to a decrease in sales of API, finished drug product, and finished goods to AstraZeneca in China in connection with the Amended AstraZeneca Agreement.

Research and Development Expense. The decrease in research and development expense of $9.9 million for the three months ended June 30, 2021 compared to the three months ended June 30, 2020 was primarily related to a decrease of $8.2 million in external development costs related to IW-3718 and a decrease of $1.5 million in compensation, benefits, and other employee-related expenses.

The decrease in research and development expense of $22.5 million for the six months ended June 30, 2021 compared to the six months ended June 30, 2020 was primarily related to a decrease of $19.2 million in external development costs related to IW-3718 and a decrease of $2.2 million in compensation, benefits, and other employee-related expenses.

Selling, General and Administrative Expense. Selling, general and administrative expenses decreased by $7.6 million for the three months ended June 30, 2021 compared to the three months ended June 30, 2020 primarily due to a $5.2 million decrease in compensation, benefits, and other employee-related expenses and a $2.6 million decrease in professional fees for legal, consulting and other services.

Selling, general and administrative expenses decreased by $16.4 million for the six months ended June 30, 2021 compared to the six months ended June 30, 2020 primarily due to a $10.6 million decrease in compensation, benefits, and other employee-related expenses; a $2.9 million decrease in decrease in professional fees for legal, consulting and other services; a $1.2 million decrease in sales and marketing activities; and a $1.0 million decrease in travel.

Restructuring Expenses. Restructuring expenses for the three and six months ended June 30, 2021, related to costs associated with the workforce reduction resulting from the discontinuation of IW-3718.

Other (Expense) Income, Net

	Three Months Ended June 30,		Change		Six Months Ended June 30,		Change	
	2021	2020	$	%	2021	2020	$	%
	(dollars in thousands)				(dollars in thousands)			
Other (expense) income:								
Interest expense	$ (7,732)	$ (7,318)	$ (414)	6 %	$ (15,358)	$ (14,538)	$ (820)	6 %
Interest and investment income	172	276	(104)	(38)%	368	1,053	(685)	(65)%
Loss on derivatives	(3,166)	(467)	(2,699)	578 %	(776)	(3,933)	3,157	(80)%
Other income	—	—	—	— %	—	27	(27)	(100)%
Total other expense, net	$ (10,726)	$ (7,509)	$ (3,217)	43 %	$ (15,766)	$ (17,391)	$ 1,625	(9)%

Interest Expense. Interest expense increased by $0.4 million during the three months ended June 30, 2021 compared to the three months ended June 30, 2020, primarily due to an increase in non-cash interest expense associated with the Senior Convertible Notes.

Interest expense increased by $0.8 million during the six months ended June 30, 2021 compared to the six months ended June 30, 2020, primarily due to an increase in non-cash interest expense associated with the Senior Convertible Notes.

Interest and Investment Income. Interest and investment income decreased by an insignificant amount in the three months ended June 30, 2021 compared to the three months ended June 30, 2020, resulting primarily from a decrease in investment interest rates.

Interest and investment income decreased by $0.7 million during the six months ended June 30, 2021 compared to the six months ended June 30, 2020, resulting primarily from a decrease in investment interest rates.

Loss on Derivatives. For the three months ended June 30, 2021, we recorded a loss on derivatives of $3.2 million resulting from an insignificant decrease in the fair value of the Convertible Note Hedges and a $3.1 million increase in the fair value of the Note Hedge Warrants. For the three months ended June 30, 2020, we recorded a loss on derivatives of $0.5 million resulting from a $0.3 million increase in the fair value of the Convertible Note Hedges and a $0.8 million increase in the fair value of the Note Hedge Warrants.

For the six months ended June 30, 2021, we recorded a loss on derivatives of $0.8 million resulting from a $1.8 million decrease in the fair value of the Convertible Note Hedges and a $1.0 million decrease in the fair value of the Note Hedge Warrants. For the six months ended June 30, 2020, we recorded a loss on derivatives of $3.9 million resulting from a $15.2 million decrease in the fair value of the Convertible Note Hedges and a $11.3 million decrease in the fair value of the Note Hedge Warrants.

Other Income. For the six months ended June 30, 2021 compared to the six months ended June 30, 2020, other income decreased by an insignificant amount due to income related to a transition service agreement with Cyclerion that terminated on March 31, 2020.

Income Tax Expense. For the three and six months ended June 30, 2021, we recorded an income tax benefit of $336.9 million and $336.5 million, respectively, resulting in a non-cash credit to net income. The income tax benefit primarily pertains to the discrete income tax benefit of $337.8 million related to the release of the valuation allowance on the majority of our tax attributes and other deferred tax assets, partially offset by state income taxes of $0.9 million and $1.3 million during the three and six months ended June 30, 2021, respectively, in certain states which have temporarily disallowed the use of net operating losses to offset taxable income. Until the second quarter of 2021, we maintained a valuation allowance on our net operating losses and other deferred tax assets. Due to this valuation allowance, we did not record any income tax expense for the three and six months ended June 30, 2020. In 2021, we expect to continue to utilize our net operating losses to offset federal taxable income and taxable income in most states. In future periods, we expect to continue to utilize our net operating losses to offset federal taxable income and taxable income in most states but will begin to record a significant portion of income taxes reflecting the utilization of the deferred tax assets. The majority of this provision for income taxes will be a non-cash expense until our net operating losses are fully utilized. Further information on the release of the valuation allowance and significant judgments related to its release can be found below in Note 11, *Income Taxes*, in the accompanying notes to our financial statements appearing elsewhere in this Quarterly Report on Form 10-Q.

Liquidity and Capital Resources

As of June 30, 2021, we had $492.7 million of unrestricted cash and cash equivalents. Our cash equivalents include amounts held in money market funds. 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 AA- rated, with a remaining final maturity when purchased of less than twenty-four months, so as to primarily achieve liquidity and capital preservation objectives.

During the six months ended June 30, 2021, our balances of cash and cash equivalents increased by $130.1 million. Net cash provided by operating activities totaled $122.3 million as a result of profitable operations driven primarily by the sales of LINZESS in the U.S. Additionally, cash provided by financing activities totaled $7.9 million in proceeds from the exercise of stock options and our employee stock purchase plan. We expect to pay $120.7 million in aggregate principal amount of our 2022 Convertible Notes within the next 12 months.

We may from time to time seek to retire, 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. Additionally, in May 2021, our board of directors authorized a stock repurchase program pursuant to which we may use up to $150.0 million to repurchase shares of our common stock through December 31, 2022, unless it is terminated or suspended prior to its expiration. Repurchases may be made through a variety of methods, including open market purchases, privately negotiated transactions, block trades, exchange transactions, accelerated share repurchase transactions or any combination of such methods. Such repurchases, redemptions or exchanges, if any, of our debt or common stock will depend on prevailing market conditions, liquidity requirements, contractual restrictions and other factors, and the amounts involved may be material.

Sources of Liquidity

Until the year ended December 31, 2019, we had incurred losses since our inception in 1998 and we had an accumulated deficit of approximately $1.0 billion as of June 30, 2021. 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, debt financings, and cash generated from our operations. As of June 30, 2021, our debt is comprised of $520.7 million aggregate principal amount of convertible notes, due at various dates between 2022 and 2026. Refer to Note 8, *Notes Payable,* to our condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q, for information related to our debt obligations.

Funding Requirements

We began commercializing LINZESS in the U.S. with our collaboration partner, AbbVie, in the fourth quarter of 2012, and we currently derive a significant portion of our revenue from this collaboration. In addition, we are deploying significant resources to fulfill U.S. FDA requirements for linaclotide. Our goal is to generate and maintain positive cash flows, driven by increased revenue generated through sales of LINZESS and other commercial activities and financial discipline.

Under our collaboration with AbbVie for North America, total net sales of LINZESS in the U.S., as recorded by AbbVie, are reduced by commercial costs incurred by each party, and the resulting amount is shared equally between us and AbbVie. Additionally, we receive royalties from AbbVie based on sales of linaclotide in its licensed territories outside of the U.S. We believe revenues from our LINZESS partnership for the U.S. with AbbVie 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 continue to enable us to generate positive cash flows, or to do so in 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., develop and commercialize other products, and invest in building our pipeline through internal or external opportunities. We believe that our cash on hand as of June 30, 2021 will be sufficient to meet our projected operating needs at least through the next twelve months from the issuance of these financial statements.

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, obtain regulatory approval for, and commercialize linaclotide in the U.S., as well as our expectations regarding revenue from Astellas for Japan and AstraZeneca for China (including Hong Kong and Macau), and our goal to generate and maintain positive cash flows, 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 Quarterly Report on Form 10-Q. 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 develop, obtain regulatory approval for, and commercialize linaclotide and our other product candidates, in each case, for all of the markets, indications, populations and formulations for which we believe each is suited. Our funding requirements will depend on many factors, including, but not limited to, the following:

- the revenue generated by sales of LINZESS and CONSTELLA and from any other sources;

- the rate of progress and cost of our commercialization activities, including the expense we incur in marketing and selling LINZESS in the U.S. and from any other sources;
- the success of our third-party manufacturing activities;
- the time and costs involved in developing, and obtaining regulatory approvals for, our product candidates, as well as the timing and cost of any post-approval development and regulatory requirements;
- the success of our research and development efforts;
- the emergence of competing or complementary products;
- 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, including royalties or other payments due or payable under such agreements; and
- the acquisition of businesses, products and technologies and the impact of other strategic transactions, as well as the cost and timing of evaluating, acquiring, and, if completed, integrating into our business operations any such assets.

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

The disclosure of our contractual obligations and commitments was reported in our 2020 Annual Report on Form 10-K. There have not been any material changes from the contractual commitments and obligations previously disclosed in our 2020 Annual Report on Form 10-K.

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 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 recent accounting pronouncements, refer to Note 2, *Summary of Significant Accounting Policies*, to our 2020 Annual Report on Form 10-K and Note 2, *Summary of Significant Accounting Policies*, appearing elsewhere in this Quarterly Report on Form 10-Q.

Trends and Uncertainties

Impact of the COVID-19 Pandemic

The COVID-19 pandemic, including containment and mitigation measures, has impacted, and may continue to impact, our business and operations and financial results, particularly in our day-to-day operations and our collaboration agreement for North America with AbbVie.

Since the beginning of the pandemic, we have monitored the impact of the COVID-19 pandemic in the territories where our customer-facing employees are located. While our customer-facing employees have generally resumed in-person work practices, they may be limited in the number of in-person details and other activities they are able to conduct due to containment and mitigation measures related to the COVID-19 pandemic. Our headquarters has re-opened on a voluntary basis, but all headquarters employees have the option to work remotely through late 2021.

We and our partner, AbbVie, are focused on maintaining the availability of LINZESS for adult men and women suffering from IBS-C or CIC. As of the date of this Quarterly Report on Form 10-Q, the COVID-19 pandemic has not caused significant disruptions to manufacturing operations or supply of LINZESS in the U.S.

We include our and AbbVie's collaboration-related selling, general, and administrative expenses, which have historically included expenses from in-person selling activities, in the calculation of net profits from the sale of LINZESS in the U.S. and present net payments to us as collaborative arrangements revenue. In the fourth quarter of 2020, we and AbbVie agreed to include costs incurred throughout 2020 associated with remote selling activities performed by our and AbbVie's customer-facing employees in collaboration-related selling, general and administrative expenses in our calculation of net profits from the sale of LINZESS in the U.S. We and AbbVie also agreed to include such costs incurred in the first half of 2021 in our calculation of net profits from the sale of LINZESS in the U.S. and will continue to do so for the remainder of 2021. We have also experienced fluctuations in our settlement payments based on the ratio of selling, general and administrative expenses incurred by each party over the past several quarters and may continue to experience such fluctuations in the future as a result of the reimbursement of costs associated with remote selling activities and potential limitations in the number of in-person details we or AbbVie may be able to conduct due to containment and mitigation measures related to the COVID-19 pandemic. The COVID-19 pandemic may negatively impact future net sales of LINZESS in the U.S., including as a result of reduced and/or restricted in-person promotion or potential changes in patient access to healthcare (including due to unemployment or modifications in insurance coverage) and payor reimbursement levels.

Given the uncertainties surrounding the extent and duration of the impact of the pandemic on our business and operations, we continue to evaluate the impact of the COVID-19 pandemic on our operating results and financial condition, and we may incur additional expenses in future periods as a result. Refer to "Risk Factors" in Item 1A of this Quarterly Report on Form 10-Q for additional information on risks associated with COVID-19 that could impact our operations and results.

Item 3. *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, collateralized reverse repurchase agreements, 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 primarily 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 and cash equivalents have significant risk of default or illiquidity. While we believe our cash and cash equivalents 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 and cash equivalents 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 convertible senior 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

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

To minimize the impact of potential dilution to our common stock upon conversion of the notes, we entered into the Convertible Note Hedges and Note Hedge Warrants, with respect to the 2022 Convertible Notes, and the Capped Calls, with respect to the 2024 Convertible Notes and 2026 Convertible Notes.

The convertible notes and derivatives are more fully described in Note 8, *Notes Payable,* in the accompanying notes to our condensed consolidated financial statements appearing elsewhere in this Quarterly Report on Form 10-Q.

Foreign Currency Risk

We have no significant monetary assets or liabilities expected to be settled in foreign currencies 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 three and six months ended June 30, 2021 and 2020 had a significant impact on our results of operations.

Item 4. *Controls and Procedures*

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a-15(b) of the Securities Exchange Act of 1934, or 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 Quarterly Report on Form 10-Q 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.

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 period covered by this Quarterly Report on Form 10-Q that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Effective in July 2021, the Company's principal financial officer and principal accounting officer roles transitioned from Gina Consylman, our former chief financial officer, to Jason Rickard, our chief operating officer and principal financial officer, and Ronald Silver, our corporate controller and principal accounting officer, respectively.

Based on management's evaluation, our principal executive officer and principal financial officer concluded no other changes during the period covered by this Quarterly Report on Form 10-Q materially affected, or were reasonably likely to materially affect, our internal control over financial reporting.

PART II OTHER INFORMATION

Item 1A. *Risk Factors*

In addition to the other information in this Quarterly Report on Form 10-Q, 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.

Summary of Risks Associated with our Business

Our business is subject to a number of risks, which are discussed more fully below. These risks include the following:

- We are highly dependent on the commercial success of LINZESS® (linaclotide) in the United States, or the U.S., for the foreseeable future; we cannot guarantee that we will generate sufficient revenues from LINZESS to cover our expenses.
- Our products may cause undesirable side effects or have other properties that could limit their commercial potential.
- We are subject to uncertainty relating to pricing and reimbursement policies in the U.S. which, if not favorable for our products, could hinder or prevent our products' commercial success.
- We must work effectively and collaboratively with AbbVie Inc. (together with its affiliates), or AbbVie (successor to Allergan plc), to market and sell LINZESS in the U.S., and must adapt our commercial model and market strategy to the evolving landscape, for LINZESS to achieve its maximum commercial potential.
- We face competition and new products may emerge that provide different or better alternatives for treatment of the conditions that our products are approved to treat.
- Even though LINZESS is approved by the U.S. Food and Drug Administration, or U.S. FDA, for use in adult patients, post-approval development and regulatory requirements still remain, which present additional challenges.
- If we are unable to execute on our strategy to in-license or acquire externally developed products or product candidates, or engage in other transactions with value creation potential, our business and prospects would be materially adversely affected.
- Our failure to successfully develop and commercialize additional product candidates or approved products would impair our ability to grow and/or adversely affect our business.
- Because we work with partners to develop, manufacture and commercialize linaclotide, we are dependent upon third parties, and our and our partners' relationships with those third parties, in our and our partners' efforts to obtain regulatory approval for, and to commercialize, linaclotide, as well as to comply with regulatory and other obligations with respect to linaclotide.

- Limitations on our ability to obtain patent protection and/or the patent rights relating to our products and our product candidates may limit our ability to prevent third parties from competing against us.
- Our indebtedness could adversely affect our financial condition or restrict our future operations.
- There can be no assurance that we will repurchase shares of our Class A Common Stock or that we will repurchase shares of our Class A Common Stock at favorable prices.
- Public health emergencies, epidemics, or pandemics, such as the COVID-19 pandemic, impact our business.

Risks Related to Commercializing LINZESS and Other Product Candidates

We are highly dependent on the commercial success of LINZESS (linaclotide) in the U.S. for the foreseeable future; we cannot guarantee that we will generate sufficient revenues from LINZESS to cover our expenses.

We and our partner, AbbVie, began selling LINZESS in the U.S. in December 2012. Revenues from our LINZESS collaboration constitute a significant portion of our total revenue, and we believe they will continue to do so for the foreseeable future. The commercial success of LINZESS depends on a number of factors, including:

- the effectiveness of LINZESS as a treatment for adult patients with irritable bowel syndrome with constipation, or IBS-C, or chronic idiopathic constipation, or CIC;
- the size of the treatable patient population;
- the effectiveness of the sales, managed markets and marketing efforts by us and AbbVie, including our ability to adapt our commercial model and market strategy to the evolving landscape;
- the adoption of LINZESS by physicians, which depends on whether physicians view it as 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 and our ability to demonstrate that LINZESS is safer, more efficacious and/or more cost-effective than alternative therapies;
- the effectiveness of our partners' distribution networks;
- the occurrence of any side effects, adverse reactions or misuse, or any unfavorable publicity in these or other areas, associated with linaclotide; 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 and other factors, and therefore may be unpredictable from quarter-to-quarter. Revenues from LINZESS or other sources in any quarter may be insufficient to cover our expenses.

Our products may cause undesirable side effects or have other properties that could limit their commercial potential.

Linaclotide has been prescribed to millions of patients since its launch in the U.S. and other territories beginning in December 2012. The most commonly reported adverse reaction since linaclotide became commercially available, as well as in the clinical trials for linaclotide in IBS-C and CIC, has been diarrhea. In the linaclotide Phase III

IBS-C and CIC trials, 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.

The number and type of patients treated with linaclotide could continue to grow if physicians prescribe linaclotide to more patients and as we and our partners conduct clinical trials, including in new indications, populations or formulations, as well as explore potential combination products, in existing and new territories. As patient experience increases and expands, we and others may identify previously unknown side effects, known side effects may be found to be more frequent and/or severe than in the past, and we and others may detect unexpected safety signals for our products or any products perceived to be similar to our products. The foregoing, or the perception of the foregoing, may have the following effects, among others:

- sales of our products may be impaired;
- regulatory approvals for our products may be delayed, denied, restricted or withdrawn;
- we or our partners may decide to, or be required to, change the products' label or send product warning letters or field alerts to physicians, pharmacists and hospitals;
- reformulation of the products, additional nonclinical or clinical studies, changes in labeling or changes to or re-approvals of manufacturing facilities may be required;
- we or our partners may be precluded from pursuing approval of linaclotide in new territories or from studying additional development opportunities to enhance our products' clinical profiles, including within new or existing indications, populations and formulations, as well as in potential combination products;
- our or our products' reputation in the marketplace may suffer; and
- government investigations or lawsuits, including class action suits, may be brought against us or our partners.

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

In addition, the U.S. FDA-approved label for LINZESS contains a boxed warning about its use in pediatric patients. LINZESS is contraindicated in pediatric patients up to six years of age based on nonclinical data from studies in neonatal mice approximately equivalent to human pediatric patients less than two years of age. There is also a warning advising physicians to avoid the use of LINZESS in pediatric patients six to less than 18 years of age. This warning is based on data in young juvenile mice and, at the time of approval, the lack of pediatric clinical safety and efficacy data. We and AbbVie have established a nonclinical and clinical post-marketing plan with the U.S. FDA to understand the safety and efficacy of LINZESS in pediatric patients. These and other restrictions could limit the commercial potential of LINZESS.

We are subject to uncertainty relating to pricing and reimbursement policies in the U.S. which, if not favorable for our products, could hinder or prevent our products' commercial success.

Our and our partner's ability to commercialize our products successfully depends in part on the coverage and reimbursement levels set by governmental authorities, private health insurers and other third-party payors. In determining whether to approve reimbursement for our products and at what level, we expect that third-party payors will consider factors that include the efficacy, cost effectiveness and safety of our products, as well as the availability of other treatments including generic prescription drugs and over-the-counter alternatives. Further, in order to obtain and maintain acceptable reimbursement levels and access for patients at copay levels that are reasonable and customary, we have offered, and expect to continue to face increasing pressure to offer, discounts or rebates from list prices or discounts to third-party payors 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 AbbVie will be able to negotiate or continue to negotiate pricing terms with third-party payors at levels that are profitable to us, or at all. Certain third-party payors also require prior authorization for, or even refuse to provide, reimbursement for our products, and others may do so in the future. Our business would be materially adversely affected if we and our partners are not able to receive

approval for reimbursement of our products from third-party payors 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 satisfactory levels or becomes subject to prior authorization. In addition, our business could be adversely affected if government healthcare programs, private health insurers, including managed care organizations, or other reimbursing bodies or payors limit or reduce the indications for or conditions under which our products may be reimbursed. Moreover, as discussed further below, changes in insurance coverage or reimbursement levels by governmental authorities, private health insurers and other third-party payors, or in the type of such coverage held by patients, as well as the impacts to healthcare access or administration (including, for example, limitations on medications or procedures deemed "non-essential," reduced interaction between patients and physicians, and increased unemployment), due to the COVID-19 pandemic may materially harm our business and commercialization efforts.

We expect to experience pricing pressures in connection with the sale of our current and future products due to the healthcare reforms discussed below, as well as the trend toward initiatives aimed at reducing healthcare costs, the increasing influence of managed care, the scrutiny of pharmaceutical pricing, the ongoing debates on reducing government spending and additional legislative proposals. There has been significant scrutiny of pharmaceutical pricing and the resulting costs of pharmaceutical products that could cause significant operational and reimbursement changes for the pharmaceutical industry. There have been a number of federal and state efforts to address drug costs, which generally have focused on increasing transparency around drug costs or limiting drug prices, price increases or other related costs. For example, the Bipartisan Budget Act of 2018 contained various provisions that affect coverage and reimbursement of drugs, including an increase, which began in 2019, in the discount that manufacturers of Medicare Part D brand name drugs must provide to Medicare Part D beneficiaries during the coverage gap from 50% to 70%.
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 our products at satisfactory levels, or at all, which could materially harm our business and financial results.

We and our linaclotide partners are subject to uncertainty relating to pricing and reimbursement policies outside the U.S., as well as risks relating to the improper importation of linaclotide and sale of counterfeit versions of linaclotide. If such policies are not favorable, or if linaclotide is improperly imported or is counterfeited, our business and financial results could be adversely affected.

In some foreign countries, particularly Canada, the countries of Europe, Japan and China, 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. Reimbursement sources are different in each country, and each country may include a combination of distinct potential payors, including private insurance and governmental payors. Some countries 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. 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 and clinical effectiveness of 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 prescription product approved for the symptomatic treatment of moderate to severe IBS-C in adults in Europe and LINZESS as the only prescription treatment approved for the treatment of adults with IBS-C in Japan, there may be disagreement as to what the most comparable product is, or if there even is one. Further, several countries have implemented government measures to either freeze or reduce pricing of pharmaceutical products. Many third-party payors 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 linaclotide 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 and our partners' 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.

CONSTELLA was first launched in certain European countries for the symptomatic treatment of moderate to severe IBS-C in adults in the second quarter of 2013 and our partner, AbbVie, is currently commercializing CONSTELLA in a number of European countries, including the United Kingdom, Italy and Spain. LINZESS was first

launched in Japan for the treatment of IBS-C in adults in the first quarter of 2017, and for the treatment of chronic constipation in adults in the third quarter of 2018, and our partner Astellas Pharma, Inc., or Astellas, is currently commercializing LINZESS in Japan. In addition, LINZESS was first launched in China for the treatment of IBS-C in adults in November 2019, and our partner AstraZeneca AB (together with its affiliates), or AstraZeneca, is currently commercializing LINZESS in China (including Hong Kong and Macau). The pricing and reimbursement strategy is a key component of our partners' commercialization plans for CONSTELLA in Europe and LINZESS in Japan and China. Our revenues may suffer if our partners are unable to successfully and timely conclude reimbursement, price approval or funding processes and market CONSTELLA in key member states of the E.U. or LINZESS in Japan or China, or if coverage and reimbursement for either CONSTELLA or LINZESS is limited or reduced. If our partners are not able to obtain or maintain coverage, pricing or reimbursement on acceptable terms or at all, or if such terms change in any countries in its territory, our partners may not be able to, or may decide not to, sell either CONSTELLA or LINZESS in such countries.

We and our partners also face the risk that linaclotide is imported or reimported into markets with relatively higher prices from markets with relatively lower prices, which would result in a decrease of sales and any payments we receive from the affected market. Additionally, third parties may illegally produce, distribute and/or sell counterfeit or otherwise unfit or adulterated versions of linaclotide. In either case, we and our partners may not be able to detect or, if detected, prevent or prohibit the sale of such products, which could result in dangerous health consequences for patients, loss of confidence in us, our partners and our products, and adverse regulatory or legal consequences. Any of the foregoing or other consequences could adversely impact our reputation, financial results and business.

We must work effectively and collaboratively with AbbVie to market and sell LINZESS in the U.S., and must adapt our commercial model and market strategy to the evolving landscape, for LINZESS to achieve its maximum commercial potential.

We are working closely with AbbVie to execute 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 in an effort to optimize the education of specific gastroenterologists and primary care physicians on whom our and AbbVie's sales representatives call, and the frequency with which the representatives meet with them. In addition, we are advancing a hybrid (virtual and in-person) selling model and access to technologies such as telehealth in an effort to expand the commercial potential of LINZESS and our other product candidates in the U.S.

In order to optimize the commercial potential of LINZESS, we and AbbVie must execute upon this commercialization plan effectively and efficiently. In addition, we and AbbVie must continually assess, modify and adapt our commercialization plan in a coordinated and integrated fashion, including evaluating and adjusting as necessary the level and mix of marketing and promotion efforts, in response to changing business, market or other factors in order to advance the commercial potential of LINZESS. For example, the increase in virtual customer support and limitations on customer access by our customer-facing employees that was prompted by the COVID-19 pandemic contributed to our decision to make virtual promotion a more permanent component of our overall selling model and may further change our commercial model or the market strategy in the industry. Further, we and AbbVie 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 AbbVie must provide our sales forces with the highest quality support, guidance and oversight for them to continue to effectively promote LINZESS to gastroenterologists and primary care physicians. If we and AbbVie fail to evolve with the changing commercial landscape successfully and 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.

In addition, most of our customer-facing employees are engaged in in-person work practices; however, they are limited in the number of in-person details they are able to conduct due to containment and mitigation measures related to the COVID-19 pandemic. We monitor the impact of the COVID-19 pandemic in the territories where our customer-facing employees are engaged in in-person work practices, and in some cases, we have paused or delayed in-person work practices as a result of the impact of the COVID-19 pandemic in those territories, and may do so again in the

future. Customer-facing employees who are not providing in-person services continue to support their customers virtually through telephone and web-based technologies. Headquarters employees are expected to have the option to work remotely through late 2021. We may delay, stop or otherwise limit in-person work in the future pending relevant health authority guidance and additional safety or other considerations. The virtual support we continue to provide to customers may not be as effective as in-person efforts, and our in-person efforts may be limited and/or limited in their effectiveness. If this were to occur, or if we, AbbVie or any of our partners were unable to align on our strategy and development and commercial efforts as a result of the COVID-19 pandemic or otherwise, we may not be able to maintain or increase the revenues that we generate or our business may be otherwise materially harmed.

We face competition and new products may emerge that provide different or better alternatives for treatment of the conditions that our products are approved to treat.

The pharmaceutical industry and the markets in which we operate are intensely competitive. We compete in the marketing and sale of our products, the development of new products and the acquisition of rights to new products with commercial potential. 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 and enable them to compete more effectively. Competition may also increase further as a result of advances made in the commercial applicability of technologies and greater availability of capital for investment in these fields. Additionally, 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 our products obsolete or noncompetitive.

Linaclotide competes with certain prescription therapies and over-the-counter products, including with products that have attained significant levels of market acceptance. The availability of prescription competitors and over-the- counter products could limit the demand, and the price we are able to charge, for LINZESS unless we are able to achieve and maintain market acceptance among the medical community and patients and differentiate LINZESS on the basis of its cost and/or actual or perceived benefits. For example, Takeda's AMITIZA (lubiprostone) is approved by the U.S. FDA for sale in the U.S. for the treatment of IBS-C, CIC and opioid-induced constipation, and an authorized generic version of AMITIZA became available in the U.S. in January 2021 and is being commercialized by Endo International plc; Bausch Health's TRULANCE (plecanatide) is approved by the U.S. FDA for sale in the U.S. for the treatment of adults with IBS-C and CIC; Takeda's MOTEGRITY (prucalopride) is approved by the U.S. FDA for sale in the U.S. for the treatment of CIC in adults; and Alfasigma USA's ZELNORM (tegaserod) is approved for sale in the U.S. for treatment of IBS-C in women under the age of 65. Over-the-counter laxatives such as MiraLAX® and DULCOLAX®, and lactulose, a prescription laxative treatment, are also available for the treatment of constipation. Additionally, we believe other companies are developing products which could compete with linaclotide, should they be approved by the U.S. FDA or foreign regulatory authorities and become commercially available. For example, although not currently commercially available, the U.S. FDA approved Ardelyx, Inc.'s IBSRELA™ (tenapanor) for the treatment of IBS-C in adults. In addition, there are other compounds in late-stage development and other potential competitors that are in earlier stages of development that, if approved, may compete with linaclotide. If our current or potential competitors are successful in completing drug development for their drug candidates and obtain approval from the U.S. FDA or foreign regulatory authorities, they could limit the demand for linaclotide.

Even though LINZESS is approved by the U.S. FDA for use in adult patients, post-approval development and regulatory requirements still remain, which present additional challenges.

In August 2012, the U.S. FDA approved LINZESS as a once-daily treatment for adult men and women suffering from IBS-C or CIC. Although we and AbbVie completed additional nonclinical and clinical studies in adults that were required by the U.S. FDA in connection with the approval of LINZESS, LINZESS remains subject to ongoing U.S. FDA requirements, including those governing the testing, manufacturing, labeling, packaging, storage, advertising, promotion, sale, distribution, recordkeeping and submission of safety and other post-market information.

LINZESS is contraindicated in pediatric patients up to six years of age based on nonclinical data from studies in neonatal mice approximately equivalent to human pediatric patients less than two years of age. There is also a boxed warning advising physicians to avoid the use of LINZESS in pediatric patients six to less than 18 years of age. This warning is based on data in young juvenile mice and, at the time of approval, the lack of pediatric clinical safety and efficacy data. We and AbbVie have established a nonclinical and clinical post-marketing plan with the U.S. FDA to understand the safety and efficacy of LINZESS in pediatric patients, and clinical pediatric programs in IBS-C and

functional constipation are ongoing. Our ability to expand the indication or label information for LINZESS to pediatrics will depend on, among other things, our successful completion of pediatric clinical programs.

These post-approval requirements impose burdens and costs on us. Failure to effectively, appropriately and timely conduct and complete the required studies relating to our products, monitor and report adverse events and meet our other post-approval commitments would lead to negative regulatory action at the U.S. FDA, which could include withdrawal of regulatory approval of our products for their currently approved indications and patient populations.

Manufacturers of drug products and their facilities are subject to continual review and periodic inspections by the U.S. FDA and other regulatory authorities for compliance with current good manufacturing practices, or GMP, and other applicable 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 withdrawal of the product from the market or suspension of manufacturing. If we, our partners or the manufacturing facilities for our products fail to comply with applicable regulatory requirements, a regulatory agency may take the following actions, among others:

- 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 or our partners;
- 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. and in a number of other countries, we or our partners 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 currently approved, we or our partners must comply with numerous and varying regulatory requirements of other jurisdictions regarding, among other things, 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. 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.

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. Additionally, we cannot be certain of the duration or extent to which the COVID-19 pandemic may impact operations of regulatory authorities in jurisdictions around the world, and any reduction in resources dedicated to review and approval of products in applicable jurisdictions could delay or otherwise impact approval or other regulatory decisions or actions. 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.

Risks Related to Our Growth Strategy

If we are unable to execute on our strategy to in-license or acquire externally developed products or product candidates, or engage in other transactions with value creation potential, our business and prospects would be materially adversely affected.

Our future success is largely dependent on our ability to successfully execute on our growth strategy, which includes in-licensing or otherwise acquiring the rights to externally developed gastrointestinal products or product candidates or engaging in other transactions with value creation potential. The success of this strategy depends upon our ability to identify, select and acquire promising assets, platforms or other opportunities. The process of proposing, negotiating and implementing a license or acquisition is lengthy and complex. Pursuit of external opportunities is also a highly competitive area and a number of other companies, including some with substantially greater financial, development, marketing and sales resources, may compete with us for license or acquisition opportunities. We have limited resources to identify and execute the acquisition or in-licensing of third-party products, product candidates, businesses or technologies and integrate them into our current infrastructure. Moreover, we expect to incur a variety of costs and 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. If we are unable to successfully acquire the rights to additional products or product candidates on terms that we find acceptable, or at all, or execute other value creating transactions, we will remain smaller, less diversified and highly dependent on the commercial success of LINZESS, and our business and prospects would be materially and adversely affected.

In addition, such in-licenses, acquisitions or other transactions may entail numerous operational and financial risks, including:

- development, regulatory and commercialization challenges;
- exposure to unknown liabilities;
- disruption of our business and diversion of our management's time and attention to develop acquired products, product candidates, businesses 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.

The development of product candidates in particular is a highly uncertain process, as we discuss further below. Any product candidate that we in-license or acquire may require additional development efforts prior to commercial sale, including extensive clinical testing and approval by the U.S. FDA and applicable foreign regulatory authorities. All product candidates are prone to risks of failure typical of pharmaceutical product development, including the possibility that a product candidate will not be shown to be sufficiently safe and effective for approval by regulatory authorities or competitors may develop alternatives that render our potential product candidates obsolete or less attractive. It is possible that none of the product candidates we may in-license or acquire will be approved for commercial sale or be otherwise commercially viable, which would impair our ability to grow. Furthermore, we may have little or no insight or

control over the development and commercialization of any product that we in-license outside the licensed territory. If other licensees do not effectively develop or commercialize any such product outside the licensed territory, our reputation or the reputation of any such product may be impacted.

Our failure to successfully develop and commercialize additional product candidates or approved products would impair our ability to grow and/or adversely affect our business.

As part of our growth strategy, we intend to explore further linaclotide development opportunities. We and AbbVie are exploring development opportunities to enhance the clinical profile of LINZESS by studying linaclotide in new or existing indications, populations and formulations to assess its potential to treat various 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 U.S. FDA or in other
countries or harm linaclotide's reputation in the marketplace, each of which could materially harm our revenues from linaclotide.

The strength of our company's pipeline will depend in large part on the outcomes of studies of assets in our pipeline. We may spend several years and make significant investments in developing any current or future product candidate, and failure may occur at any point. Our product candidates must satisfy rigorous standards of safety and efficacy before they can be approved for sale by the U.S. FDA. To satisfy these standards, we must allocate resources among development programs and we must engage in costly and lengthy research 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 clinical trials, or meet applicable regulatory standards. It is possible that none of the product candidates we develop will be approved for commercial sale, which would impair our ability to grow.

We have ongoing or planned nonclinical and clinical trials, including for linaclotide. Many companies in the pharmaceutical industry have suffered significant setbacks in clinical trials even after achieving promising results in earlier nonclinical or clinical trials. For example, in May 2020, we and AbbVie announced that our Phase II trial evaluating MD-7246, a delayed release formulation of linaclotide in adult patients with abdominal pain associated with irritable bowel syndrome with diarrhea, did not meet its primary or key secondary endpoints. Based on these findings, we and AbbVie have discontinued development of MD-7246. In addition, in September 2020, we announced that one of our two identical Phase III trials evaluating IW-3718 in refractory GERD did not meet the pre-specified criteria associated with a planned early efficacy assessment. Following the assessment from an independent data monitoring committee, we unblinded the data and confirmed that IW-3718-302 did not meet the criteria, including the study's primary endpoint of achieving a statistically significant improvement in heartburn severity. Based on these findings, we discontinued development of IW-3718.

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 U.S. FDA and other applicable regulatory authorities, which could delay, limit or prevent regulatory approval. The U.S. FDA or other regulatory authorities also may require additional clinical trials, which may be costly or delay, limit, prevent or otherwise impact regulatory submission or approval. Satisfaction of U.S. FDA or other applicable regulatory requirements is costly, time-consuming, uncertain and subject to unanticipated delays.

If we are unable to successfully partner with other companies to develop and commercialize products and/or product candidates, our ability to grow would be impaired and our business would be adversely affected.

As part of our business strategy, we may partner with pharmaceutical, biotechnology or other companies to develop and commercialize products or product candidates. Although we have entered into such arrangements with respect to the development and commercialization of linaclotide worldwide, there can be no assurance that we will be able to do so in the future with respect to other products or product candidates that we either develop internally or in- license or that we will be able to gain the interest of potential partners; establish and maintain development,

manufacturing, marketing, sales or distribution relationships on acceptable terms; that such relationships, if established, will be successful or on favorable terms; or that we will gain market acceptance for such products or product candidates. The process of proposing, negotiating and implementing a partnership arrangement is lengthy and complex. If we enter into any partnering arrangements with third parties, any revenues we receive will depend upon the efforts of such third parties. If we are unable to establish successful partnering arrangements, we may not gain access to the financial resources and industry experience necessary to develop, commercialize or successfully market our products or product candidates, may be forced to curtail, delay or stop a development program or one or more of our other development programs, delay commercialization, reduce the scope of our planned sales or marketing activities or undertake development or commercialization activities at our own expense, and therefore may be unable to generate revenue from products or product candidates or do so to their full potential.

Delays in the completion of clinical testing of any of our products or 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:

- the ongoing COVID-19 pandemic, including restrictions on activities imposed by government authorities in response;
- obtaining regulatory approval to commence a clinical trial;
- reaching agreement on acceptable terms with prospective 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.

The COVID-19 pandemic has impacted enrollment in our clinical trials and may impact clinical trial enrollment or participation in the future, for example due to suspension of in-person procedures required for enrollment or lower or discontinued patient participation compared to pre-COVID-19 pandemic levels. Specifically, prior to our decision to discontinue development of IW-3718, the COVID-19 pandemic impacted enrollment in our Phase III clinical trials of IW-3718 for the treatment of refractory GERD. Clinical trials may also be delayed or discontinued as a result of ambiguous or negative interim results or assessments. 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 U.S. 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 U.S. 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 or otherwise determine 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 or our partners terminate or experience delays in the completion of any clinical trials, the commercial prospects for our products or product candidates 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.

Risks Related to Our Dependence on Third Parties

Because we work with partners to develop, manufacture and commercialize linaclotide, we are dependent upon third parties, and our and our partners' relationships with those third parties, in our and our partners' efforts to obtain regulatory approval for, and to commercialize, linaclotide, as well as to comply with regulatory and other obligations with respect to linaclotide.

AbbVie played a significant role in the conduct of the clinical trials for linaclotide and in the subsequent collection and analysis of data, and AbbVie holds the new drug application, or NDA, for LINZESS. In addition, we are commercializing LINZESS in the U.S. with AbbVie. AbbVie is also responsible for the development, regulatory approval and commercialization of linaclotide in countries worldwide other than Japan and China (including Hong Kong and Macau). AbbVie is commercializing LINZESS in Mexico and CONSTELLA in Canada, as well as commercializing CONSTELLA in certain countries in Europe. Astellas and AstraZeneca are responsible for development and commercialization of LINZESS in Japan and China (including Hong Kong and Macau), respectively. Each of our partners for linaclotide also is responsible for active pharmaceutical ingredient, or API, finished drug product and finished goods manufacturing (including bottling and packaging) for its respective territories and distributing the finished goods to wholesalers. We and/or our partners have commercial supply agreements with independent third parties to manufacture the linaclotide API.

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, including those arising out of the COVID-19 pandemic, 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 linaclotide partners, and vice versa. Our linaclotide 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. Further, we have limited ability to control the amount or timing of resources that our partners devote to linaclotide, particularly in light of the impact of the COVID-19 pandemic on our partners' operations. If any of our partners fails to devote sufficient time and resources to linaclotide, or if its performance is substandard or otherwise hindered, 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 linaclotide partners, they may have competitive products or relationships with other commercial entities, some of which may compete with us. If any of our partners competes with us or assists our competitors, it could harm our competitive position.

In addition, adverse event reporting requires significant coordination with our partners and third parties. We are the holder of the global safety database for linaclotide responsible for coordinating the safety surveillance and adverse event reporting efforts worldwide with respect to linaclotide; each of Astellas, AstraZeneca and AbbVie is responsible for reporting adverse event information from its territory to us. If we fail to perform such activities and maintain the global safety database for linaclotide or if our partners do not report adverse events related to linaclotide, or fail to do so in a timely manner, we may not receive the information that we or our partners are required to report to the U.S. FDA or a foreign regulatory authority regarding such products. Furthermore, we or our partners may fail to adequately monitor, identify or investigate adverse events, or to report adverse events to the U.S. FDA or foreign regulatory authority accurately and within the prescribed timeframe. If we or our partners are unsuccessful in any of the foregoing due to poor process, execution, systems, oversight, communication, adjudication or otherwise, then we may suffer any number of consequences, including the imposition of additional restrictions on the use of linaclotide, removal of linaclotide from the market, criminal prosecution, the imposition of civil monetary penalties, seizure of such products, or delay in approval of future products.

We rely entirely on contract manufacturers, our partners and other third parties to manufacture linaclotide and our other product candidates 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 development and 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 API, finished drug product and finished goods for linaclotide and our other product candidates. Each of our partners for linaclotide is responsible for API, finished drug product and finished goods manufacturing (including bottling and packaging) for its respective territories and distributing the finished goods to wholesalers. Should we, or any of our partners or any third-party manufacturers we or our partners engage, experience setbacks or challenges in our manufacturing efforts, including setbacks related to the COVID-19 pandemic described further below, our development and commercialization efforts may be materially harmed. We and/or our partners have commercial supply agreements with independent third parties to manufacture linaclotide API.

Each of our partners and the third-party manufacturers we or our partners engage must comply with GMP and other stringent regulatory requirements enforced by the U.S. 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 and our partners' own quality assurance releases. Manufacturers of our products may be unable to comply with these GMP requirements and with other regulatory requirements. We have little control over compliance with these regulations and standards by our partners and the third-party manufacturers we or our partners engage.

Our partners and the third-party manufacturers we or our partners engage may experience problems with their respective manufacturing and distribution operations and processes, including, for example, quality issues, such as product specification and stability failures, procedural deviations, improper equipment installation or operation, utility failures, contamination, natural disasters and public health epidemics, including the COVID-19 pandemic. In addition, the raw materials necessary to make API for our products and product candidates are acquired from a limited number of sources. Any delay or disruption in the availability of 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 partners or the third-party manufacturers we or our partners engage 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 partners or the third-party manufacturers we or our partners engage 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 maximum or available manufacturing capacities are insufficient to meet demand, our and our partners' development or commercialization efforts may be materially harmed.

If any of our linaclotide partners undergoes a change of control or in management, this may adversely affect our collaborative relationship or the success of the commercialization of linaclotide in the U.S. or in the other countries where it is approved, or the ability to achieve regulatory approval, launch and commercialize linaclotide in other territories.

We work jointly and collaboratively with partners on many aspects of the development, manufacturing and/or 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 develop and commercialize linaclotide in the U.S. and the other countries where it is approved, 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 May 2020, AbbVie announced the completion of its acquisition of Allergan plc. Our collaboration, now with AbbVie, for the development and commercialization of linaclotide in North America, and our license, now to AbbVie, to develop and commercialize linaclotide in all countries worldwide other than China (including Hong Kong and Macau) and Japan, remain in effect. In connection with this transaction, we continue to engage with AbbVie to reestablish relationships and confirm alignment, including on our development and commercialization strategy for linaclotide. Any failure to do so could adversely affect the development and commercialization of linaclotide. If any of our linaclotide partners undergoes a change of control or in management, we would similarly need to reestablish many relationships and confirm alignment, including on our development and commercialization strategy for linaclotide. Further, in connection with any change of control or change in management, there is inherent uncertainty and disruption in operations, which could result in distraction, inefficiencies, and misalignment of priorities. As a result, in the event of a change of control or in management at one of our linaclotide 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 linaclotide partners undergoes a change of control and the acquirer either (i) is unable to perform such partner's obligations under its collaboration or license agreement with us or (ii) does not comply with the divestiture or certain other provisions of the applicable agreement, 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 that represents the functional areas necessary to support the commercialization of LINZESS in the U.S. If AbbVie 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, as well as develop others, to replace the capabilities that AbbVie 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.

We do not have certain operational capabilities outside of the U.S. If AbbVie, 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 development and commercialization of linaclotide could be negatively impacted.

Risks Related to Regulatory, Legal and Compliance Matters

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 our approved products, including the sale of linaclotide, 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 our products 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 will incur significant liability if it is determined that we are promoting any "off-label" uses of our products.

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 U.S. FDA or other applicable regulatory agencies. Such "off-label" uses are common across medical specialties. Although the U.S. FDA and other regulatory agencies do not regulate a physician's choice of treatments, the U.S. FDA and other regulatory agencies do restrict manufacturer communications on off-label use. Companies are not permitted to promote drugs or medical devices for off-label uses or to promote unapproved drugs or medical devices. Accordingly, we do not permit promotion of any product that we develop, license, commercialize, promote, co-promote or otherwise partner prior to approval or for any indication, population or use not described in or consistent with such product's label. The U.S. 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. Even if it is later determined that we were not in violation of these laws, we may be faced with negative publicity, incur significant expenses defending our actions and have to divert significant management resources from other matters.

Notwithstanding the regulatory restrictions on off-label promotion, the U.S. 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.

The 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, fraud and abuse, privacy and price reporting and payment 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 offering, soliciting, receiving or providing remuneration, directly or indirectly, to induce either the referral of an individual for, 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;

- 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 payors 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 on certain types of entities, which include many healthcare providers with whom we interact and health plans with which we may interact;

- 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 prior to approval or for off-label use and regulates the distribution of samples;

- federal laws, including the Medicaid Drug Rebate Program, 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 teaching hospitals (and additional categories of healthcare practitioners beginning with reports submitted in 2022) 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 payor, including commercial insurers, state transparency laws, state laws limiting interactions between pharmaceutical manufacturers and members of the healthcare industry, 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.

In addition, we may be subject to privacy and security laws in the various jurisdictions in which we operate, obtain or store personally identifiable information. The legislative and regulatory landscape for privacy and data protection continues to evolve, and there has been an increasing focus on privacy and data protection issues with the potential to affect our business. For example, the processing of personal data in the European Economic Area, or the EEA, is subject to the General Data Protection Regulation, or the GDPR, which took effect in May 2018. The GDPR increases obligations with respect to clinical trials conducted in the EEA, such as in relation to the provision of fair processing notices, exercising data subject rights and reporting certain data breaches to regulators and affected

individuals, as well as how we document our relationships with third parties that process GDPR-covered personal data on our behalf. The GDPR also increases the scrutiny applied to transfers of personal data from the EEA (including from clinical trial sites in the EEA) to countries that are considered by the European Commission to lack an adequate level of data protection, such as the United States. The July 2020 invalidation of the EU-U.S. Privacy Shield framework also may lead to increased scrutiny on data transfers from the EEA to the United States generally and increase our costs of compliance with data privacy legislation. In addition, we are subject to the California Consumer Privacy Act, or CCPA, which became effective on January 1, 2020. The CCPA gives California consumers (defined to include all California residents) certain rights, including the right to ask companies to disclose the types of personal information collected, specific pieces of information collected by a company, the categories of sources from which such information was collected, the business purpose for collecting or selling the consumer's personal information, and the categories of third parties with whom a company shares personal information. The CCPA also imposes several obligations on companies to provide notice to California consumers regarding a company's data processing activities. Additionally, the CCPA gives California consumers the right to ask companies to delete a consumer's personal information and it places limitations on a company's ability to sell personal information, including providing consumers a right to opt out of sales of their personal information.

The compliance obligations imposed by the GDPR and the CCPA have required us to revise our operations. In addition, the GDPR and the CCPA impose substantial fines and other regulatory penalties for breaches of data protection requirements, and they confer a private right of action on data subjects (in the case of the GDPR) and consumers (in the case of the CCPA) and their representatives for breaches of certain data protection requirements. Moreover, we will be subject to the California Privacy Rights Act, which will impose additional obligations on companies processing personal information of California residents beyond those found in the CCPA, and the recently-passed Virginia Consumer Data Protection Act on their respective effective dates. We expect to be subject to additional privacy laws at both the U.S. state level and abroad. Achieving and sustaining compliance with applicable international, federal and state privacy, security, fraud and reporting laws may prove time-consuming and costly.

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.

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

The U.S. government and individual states have been aggressively pursuing healthcare reform designed to impact delivery of, and/or payment for, healthcare, which include initiatives intended to reduce the cost of healthcare. For example, in March 2010, the U.S. Congress enacted the Patient Protection and Affordable Care Act, as modified by the Health Care and Education Reconciliation Act, or the ACA, which, among other things, expanded healthcare coverage through Medicaid expansion and the implementation of the individual health insurance mandate; included changes to the coverage and reimbursement of drug products under government healthcare programs; imposed an annual fee on manufacturers of branded drugs; and expanded government enforcement authority. We face uncertainties because there have been, and may be additional, federal legislative and administrative efforts to repeal, substantially modify or invalidate some or all of the provisions of the ACA. Such efforts may lead to fewer Americans having more comprehensive health insurance compliant with the ACA, even in the absence of legislative repeal. For example, tax reform legislation was enacted at the end of 2017 that eliminated the tax penalty for individuals who do not maintain sufficient health insurance coverage beginning in 2019. The ACA has also been subject to judicial challenge. Beyond the ACA, other health care reform efforts are ongoing. Some healthcare reform efforts have sought to address certain issues related to the COVID-19 pandemic, including an expansion of telehealth coverage under Medicare, accelerated or advanced Medicare payments to healthcare providers and payments to providers for COVID-19-related expenses and lost revenues. Other reform efforts affect pricing or payment for prescription drug products, including the increase in

discount that manufacturers of Medicare Part D brand name drugs must provide to Medicare Part D beneficiaries during the coverage gap from 50% to 70%.

Healthcare reform efforts have been and may continue to be subject to scrutiny and legal challenge. For example, courts temporarily enjoined a new "most favored nation" payment model for select drugs covered under Medicare Part B that was to take effect on January 1, 2021 and would limit payment based on international drug price and the Centers for Medicare and Medicaid Services subsequently indicated that the rule will not be implemented without further rulemaking. As another example, revisions to regulations under the federal anti-kickback statute would remove protection for traditional Medicare Part D discounts offered by pharmaceutical manufacturers to pharmacy benefit managers and health plans. The revisions to the federal anti-kickback statute regulations were initially scheduled to take effect in 2022 but have now been delayed to 2023 under the Biden Administration. Adoption of new healthcare reform legislation at the federal or state level could affect demand for, or pricing of, our products or product candidates if approved for sale. We cannot predict, however, the ultimate content, timing or effect of any healthcare reform legislation or action, or its impact on us, and healthcare reform could increase compliance costs and may adversely affect our future business and financial results.

In addition, other legislative changes have been adopted that could have an adverse effect upon, and could prevent, our products' or product candidates' commercial success. More broadly, the Budget Control Act of 2011, as amended, or the Budget Control Act, includes provisions intended to reduce the federal deficit, including reductions in Medicare payments to providers through 2030 (except May 1, 2020 to December 31, 2021). The Congressional Budget Office has indicated that the American Rescue Plan Act of 2021 will likely trigger a statutory provision that requires that automatic payment cuts be put into place if a statutory action creates a net increase in the deficit and require reductions in Medicare spending. Any significant spending reductions affecting Medicare, Medicaid or other publicly funded or subsidized health programs, or any significant taxes or fees imposed as part of any broader deficit reduction effort or legislative replacement to the Budget Control Act, or otherwise, could have an adverse impact on our anticipated product revenues.

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 our products, which would have an adverse effect on our financial results.

The Food and Drug Administration Amendments Act of 2007 also provides the U.S. 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 evaluation and mitigation strategies approved by the U.S. FDA. We and AbbVie have established a nonclinical and clinical post-marketing plan with the U.S. FDA to understand the safety and efficacy of LINZESS in pediatrics. The U.S. 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 our products, and could result in potential restrictions on the sale and/or distribution of our products, even in such products' approved indications and patient populations.

Risks Related to the Separation of Cyclerion

We may incur operational difficulties or be exposed to claims and liabilities as a result of the separation of Cyclerion.

On April 1, 2019, we distributed all of the outstanding shares of Cyclerion Therapeutics, Inc., or Cyclerion, common stock to Ironwood stockholders in connection with the separation of our soluble guanylate cyclase business, or the Separation. In connection with the distribution, we entered into a separation agreement and various other agreements (including a tax matters agreement, an employee matters agreement, transition services agreements, an intellectual property license agreement and a development agreement). These agreements govern the separation and distribution and the relationship between us and Cyclerion going forward, including with respect to potential tax-related losses associated with the separation and distribution. In addition, the development agreement provides for the performance of services by Cyclerion for our benefit for a period of time. If Cyclerion is unable to satisfy its obligations under these agreements, we could incur losses or operational challenges or difficulties and may not have sufficient resources available for such services. These arrangements could also lead to disputes over rights to certain shared property and over the allocation of costs for products and operations.

The separation agreement provides for indemnification obligations designed to make Cyclerion financially responsible for many liabilities that may exist relating to its business activities, whether incurred prior to or after the distribution, including any pending or future litigation, but we cannot guarantee that Cyclerion will be able to satisfy its indemnification obligations. It is also possible that a court would disregard the allocation agreed to between us and Cyclerion and require us to assume responsibility for obligations allocated to Cyclerion. Third parties could also seek to hold us responsible for any of these liabilities or obligations, and the indemnity rights we have under the separation agreement may not be sufficient to fully cover all of these liabilities and obligations. Even if we are successful in obtaining indemnification, we may have to bear costs temporarily. In addition, our indemnity obligations to Cyclerion, including those related to assets or liabilities allocated to us, may be significant. These risks could negatively affect our business, financial condition or results of operations.

If the distribution of the shares of Cyclerion common stock in connection with the Separation is not generally tax- free for U.S. federal income tax purposes, we and our stockholders could be subject to significant tax liabilities.

The distribution, together with certain related transactions, is intended to qualify for tax-free treatment to us and our stockholders for U.S. federal income tax purposes. We received a favorable private letter ruling from the Internal Revenue Service, or IRS, under the pilot program established in Revenue Procedure 2017-52 relating to the U.S. federal income tax treatment of the distribution. Consistent with the guidelines set forth in Revenue Procedure 2017-52, the IRS private letter ruling does not cover all of the issues that are relevant to determining whether the distribution is generally tax free for U.S. federal income tax purposes. Accordingly, completion of the distribution was conditioned upon, among other things, our receipt of an opinion from an outside tax advisor that the distribution will qualify as a transaction that is generally tax-free to both us and our stockholders for U.S. federal income tax purposes under Sections 355 and 368(a)(1)(D) of the Internal Revenue Code. The private letter ruling and opinion were based on and relied on, among other things, certain facts and assumptions, as well as certain representations, statements and undertakings from us and Cyclerion (including those relating to the past and future conduct of us and Cyclerion). If any of these facts, assumptions, representations, statements or undertakings is, or becomes, inaccurate or incomplete, or if we or Cyclerion breach any of our respective covenants relating to the distribution, the IRS private letter ruling and any tax opinion may be invalid. Moreover, the opinion is not binding on the IRS or any courts. Accordingly, notwithstanding receipt of the IRS private letter ruling and the opinion, the IRS could determine that the distribution and certain related transactions should be treated as taxable transactions for U.S. federal income tax purposes.

If the distribution, together with certain related transactions, fails to qualify as a transaction that is generally tax-free under Sections 355 and 368(a)(1)(D) of the Internal Revenue Code, in general, for U.S. federal income tax purposes, we would recognize taxable gain with respect to Cyclerion's distributed common stock and our stockholders who received shares of Cyclerion common stock in the distribution would be subject to tax as if they had received a taxable distribution equal to the fair market value of such shares.

We may not achieve some or all of the anticipated benefits of the Separation, which may adversely affect our business.

We may not be able to achieve the full strategic, financial or other benefits expected to result from the Separation, or such benefits may be delayed or not occur at all. If we fail to achieve some or all of the expected benefits of the Separation, or if such benefits are delayed, our business, financial condition, results of operations and the value of our stock could be adversely impacted. The combined value of the common stock of the two publicly traded companies may not be equal to or greater than what the value of our Class A Common Stock would have been had the Separation not occurred. In addition, we are smaller and less diversified, with a narrower business focus, than we were before the Separation and therefore may be more vulnerable to changing market conditions.

Risks Related to Intellectual Property

Limitations on our ability to obtain patent protection and/or the patent rights relating to our products and 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 sufficient patent protection for our products and 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 in the U.S. related to LINZESS, including a LINZESS composition of matter and methods of use patent (U.S. Patent 7,304,036) expiring in 2026. Additional U.S. patents related to LINZESS include multiple patents relating to our commercial, room temperature stable formulations of the 72 mcg, 145 mcg and 290 mcg doses of linaclotide and methods of using these formulations, the latest of which expires in the early 2030s, as well as other patents covering processes for making LINZESS, formulations 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. In addition, we have several pending patent applications in the U.S. We believe in the strength of our LINZESS patent portfolio and that we have sufficient freedom to operate; however, if any of our present or future patents is challenged, narrowed, invalidated or circumvented, or our pending patent applications are not granted, our ability to prevent third parties from competing with LINZESS could be limited and our business and financial results may be materially harmed.

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 permit third parties to challenge our patents more easily and create uncertainty with respect to the interpretation and practice of U.S. patent law. Moreover, the U.S. Supreme Court has ruled on several patent cases that narrow the scope of patent protection available and weakening the rights of patent owners in certain circumstances. Depending on the impact of these decisions and other actions by the U.S. Congress, the federal courts, the USPTO, and their foreign counterparts, the laws and regulations governing patents may change, or their interpretation or implementation may change, in unpredictable ways that could impact, potentially adversely, our ability to obtain new patents or to enforce and defend patents that we have already obtained or that we might obtain in the future. For example, such changes may increase the costs and complexity associated with obtaining, enforcing or defending our patents, including in abbreviated new drug application, or ANDA, litigation.

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 partners 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 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. Additionally, 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 partners, 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 partners 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 LINZESS 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 LINZESS or our product candidates may infringe.

We may be exposed to, or threatened with, litigation by third parties alleging that LINZESS or our product candidates infringe their intellectual property rights. If LINZESS or one of our product candidates is found to infringe the intellectual property rights of a third party, we or our partners could be enjoined by a court and required to pay damages and could be unable to develop or commercialize LINZESS 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 counterparty 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 partners 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.

We have received notices of Paragraph IV certifications related to LINZESS in conjunction with ANDAs filed by generic drug manufacturers, and we may receive additional notices from others in the future. We have, and may continue to, become involved in legal proceedings to protect or enforce intellectual property rights relating to our products and our product candidates, 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 the patents relating to our products and our product candidates or may assert that such 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. Generic drug manufacturers were first able to file ANDAs for generic versions of LINZESS 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 U.S. FDA regulations. When filing an ANDA for one of our products, a generic drug manufacturer may choose to challenge one or more of the patents that cover such product and seek to commercialize generic versions of one or more LINZESS doses. As such, we have brought, and may bring in the future, legal proceedings against generic drug manufacturers.

We and AbbVie have received Paragraph IV certification notice letters regarding ANDAs submitted to the U.S. FDA by generic drug manufacturers requesting approval to engage in commercial manufacture, use, sale and offer for sale of linaclotide capsules (72 mcg, 145 mcg and 290 mcg), proposed generic versions of our U.S. FDA-approved drug LINZESS. In the past, we have filed patent infringement lawsuits against five companies making such ANDA filings, and we have entered into settlement agreements with each of these filers. Frequently, innovators receive multiple ANDA filings. Consequently, we may receive additional notice letters regarding ANDAs submitted to the U.S. FDA, and may receive amendments to those notice letters.

After evaluation, we have in the past filed, and may, in the future, file patent infringement lawsuits or take other action against companies making ANDA filings. If a patent infringement suit has been filed within 45 days of receipt of a notice letter, the U.S. FDA is not permitted to approve any ANDA that is the subject of such lawsuit for 30 months from the date of the NDA holder's and patent owner's receipt of the ANDA filer's notice letter, or until a court decides that the relevant patents are invalid, unenforceable and/or not infringed. Additionally, the validity of the patents relating to our products and our product candidates may be challenged by third parties pursuant to administrative procedures introduced by the America 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 (including any lawsuits that we file against generic drug manufacturers in connection with the receipt of a notice letter), 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, including any settlements or other resolutions thereof which could, in addition to other risks, result in a shortening of exclusivity periods. An adverse result in any litigation or defense proceedings could put one or more of the patents relating to our products and our product candidates at risk of being invalidated or interpreted narrowly, or could otherwise result in a loss of patent protection for the product or product candidate at issue, and could put our patent applications at risk of not issuing, which would materially harm our business. Upon any loss of patent protection for one of our products, or upon an "at-risk" launch (despite pending patent infringement litigation, before any court decision or while an appeal of a lower court decision is pending) by a manufacturer of a generic version of one of our patented products, our revenues for that product could be significantly reduced in a short period of time, which would materially and adversely affect our business.

Interference or derivation proceedings brought by the USPTO may be necessary to determine the priority of inventions with respect to the patents relating to our products and our product candidates and patent applications or those of our partners. 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 partners, 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 incurred significant losses from our inception in 1998 through the year ended December 31, 2018, and we may incur losses in future periods.

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, and debt issuances, including our June 2015 issuance of our 2.25% Convertible Senior Notes due June 15, 2022, or the 2022 Convertible Notes, and our August 2019 issuance of our 0.75% Convertible Senior Notes due 2024, or the 2024 Convertible Notes, and our 1.50% Convertible Senior Notes due 2026, or the 2026 Convertible Notes (together with the 2022 Convertible Notes and the 2024 Convertible Notes, the Convertible Senior Notes). We currently derive a significant portion of our revenue from our LINZESS collaboration with AbbVie for the U.S. We believe that the revenues from the LINZESS collaboration will continue to constitute a significant portion of our total revenue for the foreseeable future. Such revenue is highly dependent on LINZESS demand and other factors such as wholesaler buying patterns. Our collaborative arrangements revenue outside of the U.S. has and may continue to fluctuate as a result of the timing and amount of royalties from sales of linaclotide in the markets in which it is currently approved, or any other markets where linaclotide receives approval, as well as clinical and commercial milestones received and recognized under our current and future strategic partnerships outside of the U.S.

Prior to the year ended December 31, 2019, we incurred net losses in each year since our inception in 1998. As of June 30, 2021, we had an accumulated deficit of approximately $1.0 billion. We cannot be certain that sales of our products, and the revenue from our other commercial activities will not fall short of our projections or be delayed, particularly in light of the negative financial impact that the COVID-19 pandemic may have on our business in the future. Further, we expect to continue to incur substantial expenses in connection with our efforts to commercialize linaclotide and research and develop 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 our products and our other activities, we are unable to predict the extent of any future losses. Failure to achieve sustainable net income and maintain positive cash flows would have an adverse effect on 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 corporate or product development or commercialization efforts.

We have previously raised funds to finance our operations through capital raising activities, including the sale of shares of our Class A Common Stock in public offerings and convertible and other debt issuances. However, marketing and selling primary care drugs, purchasing commercial quantities of pharmaceutical products, developing product candidates, conducting clinical trials and accessing externally developed products 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 our products by prescribers and patients in the countries in which they are approved;
- the costs associated with commercializing our products in the U.S.;
- the costs of establishing, maintaining and/or expanding sales, marketing, distribution, and market access capabilities for our products;
- the regulatory approval of linaclotide within new indications, populations and formulations, 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 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 IBS-C and CIC, as well as to study linaclotide in additional indications, populations and formulations to assess its potential to treat various conditions;
- the costs and timing of in-licensing additional products or product candidates or acquiring other complementary companies or assets;
- the achievement and timing of milestone payments and royalties due or payable under our collaboration and license agreements;
- the status, terms and timing of any collaboration, licensing, co-commercialization or other arrangements;
- the timing of any regulatory approvals of our product candidates;
- whether the holders of our Convertible Senior Notes hold the notes to maturity without conversion into our Class A Common Stock or cash and whether we are required to repurchase any of our Convertible Senior Notes prior to maturity upon a fundamental change, as defined in each of the indentures governing the Convertible Senior Notes; and
- whether we seek to redeem, repurchase or retire 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 AbbVie under our collaboration agreement for North America.

In June 2015, we issued $335.7 million aggregate principal amount of our 2022 Convertible Notes bearing an annual interest rate of 2.25%. In August 2019, we issued $200.0 million aggregate principal amount of our 2024 Convertible Notes bearing an annual interest rate of 0.75% and $200.0 million aggregate principal amount of our 2026 Convertible Notes bearing an annual interest rate of 1.50%, and we used a portion of the proceeds from this offering to repurchase $215.0 million aggregate principal amount of the 2022 Convertible Notes. Semi-annual payments on our 2022 Convertible Notes began on December 15, 2015 and semi-annual payments on each of our 2024 Convertible Notes and 2026 Convertible Notes began on December 15, 2019. We expect that for the next few years, at a minimum, the net quarterly payments from AbbVie will be a significant source of cash flows from operations. If the cash flows derived from the net quarterly payments that we receive from AbbVie 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 AbbVie 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 AbbVie under the collaboration agreement for North America. Accordingly, since we cannot guarantee that our company will maintain net income or positive cash flows, 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 AbbVie, (ii) there will be a net quarterly payment from AbbVie at all or (iii) we will not also be required to make a true-up payment to AbbVie 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 June 30, 2021, we had total indebtedness of $520.7 million and available cash and cash equivalents of $492.7 million. Our indebtedness, combined with our other financial obligations and contractual commitments, could have 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 flows to be dedicated to debt service payments instead of other purposes, thereby reducing the amount of cash flows 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 flows 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 Convertible Senior Notes, in connection with a transaction involving us that constitutes a fundamental change under the indentures governing the Convertible Senior 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 none of the indentures governing our Convertible Senior Notes includes covenants restricting the operation of our business except in certain limited circumstances, in the event of a default under any of the Convertible Senior Notes, the applicable noteholders or the trustee under the indenture governing the applicable Convertible Senior Notes may accelerate our payment obligations under such Convertible Senior 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 Convertible Senior 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 Class A Common Stock listed on The Nasdaq Global or Global Select Market or The New York Stock Exchange), subject to the terms of each of the indenture governing the Convertible Senior Notes. 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.

Each of the indentures governing our Convertible Senior Notes also includes cross-default features providing that certain failures to pay for outstanding indebtedness would result in a default under the indentures governing our Convertible Senior Notes. 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 Convertible Notes and capped call transactions entered into in connection with our 2024 Convertible Notes and our 2026 Convertible Notes may affect the value of our Class A Common Stock.

In connection with the issuance of our 2022 Convertible Notes, we entered into convertible note hedge transactions, or the Convertible Note Hedges, and separate note hedge warrant transactions, or the Note Hedge Warrants, with certain financial institutions. The Convertible Note Hedges and Note Hedge Warrants were partially terminated in connection with the repurchase of $215.0 million aggregate principal amount of the 2022 Convertible Notes in August 2019. Additionally, in connection with the issuance of our 2024 Convertible Notes and our 2026 Convertible Notes, we entered into capped call transactions, or the Capped Calls, with certain financial institutions. These transactions are expected generally to reduce the potential dilution upon any conversion of our 2022 Convertible Notes, our 2024 Convertible Notes or our 2026 Convertible Notes, as applicable, or offset any cash payments we are required to make in excess of the principal amount of converted Convertible Senior Notes, as the case may be.

In connection with these transactions, the financial institutions likely 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 Convertible Notes, the 2024 Convertible Notes and the 2026 Convertible Notes, as applicable, 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 Convertible Notes, the 2024 Convertible Notes or the 2026 Convertible Notes, as applicable. In addition, under certain circumstances the counterparties have the right to terminate the Convertible Note Hedges and Capped Calls and settle the Note Hedge Warrants on terms set forth in the applicable confirmations, which may result in us not receiving all or any portion of the anticipated benefit of the Convertible Note Hedges and Capped Calls. 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 and Capped Calls, 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 income (loss) and other operating results will be affected by numerous factors, including:

- the level of underlying demand for our products in the countries in which they are approved;

- wholesalers' buying patterns with respect to our products;
- the costs associated with commercializing our products in the U.S.;
- the achievement and timing of milestone payments and royalties due or payable under our 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 impairments of assets or goodwill, and associated write-downs;
- any variations in the level of expenses related to our development programs;
- addition or termination of clinical trials;
- regulatory developments affecting our products and product candidates;
- any material lawsuit in which we may become involved; and
- the impact of the COVID-19 pandemic or other public health epidemics, including containment or mitigation measures, or natural disasters.

If our operating results fall below the expectations of investors or securities analysts for any of the foregoing reasons or otherwise, 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.

There can be no assurance that we will repurchase shares of our Class A Common Stock or that we will repurchase shares of our Class A Common Stock at favorable prices.

Our Board of Directors has authorized a share repurchase program of up to $150.0 million to repurchase shares of our Class A Common Stock. The amount and timing of share repurchases are subject to market conditions, stock price and other factors, including compliance with all respective laws and our applicable agreements. Our ability to repurchase shares of our Class A Common Stock will depend upon, among other factors, our cash balances and potential future capital requirements for strategic transactions, our results of operations, our financial condition and other factors that we may deem relevant. A reduction in repurchases under, or the completion of, our share repurchase program could have a negative effect on our stock price. We can also provide no assurance that we will repurchase shares of our Class A Common Stock at favorable prices, if at all.

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.

Prior to the year ended December 31, 2019, we incurred significant net losses since our inception. To the extent that we do not generate federal and state taxable income in the future, unused net operating loss and tax credit carryforwards will carry forward to offset future taxable income, if any, until the date, if any, on which 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. Certain future equity offerings or strategic transactions, if any, could potentially result in a 50% or greater change of control.

If we do not generate sufficient taxable income prior to the expiration, if any, 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.

General Risk Factors

Public health emergencies, epidemics, or pandemics, such as the COVID-19 pandemic, impact our business.

The COVID-19 pandemic has impacted, and is expected to continue to impact, our business and operations in a number of ways and there are significant uncertainties surrounding the extent and duration of such impacts. Factors that will influence the impact on our business and operations include the duration and extent of the outbreak, the duration and extent of imposed or recommended containment and mitigation measures, periodic spikes in infection rates, new strains of the virus that cause outbreaks of COVID-19, the broad availability of effective vaccines, and the general economic consequences of the pandemic. Addressing the impacts of the COVID-19 pandemic has, and likely will for an extended period, required significant time and has diverted the attention of our management, other employees and our board of directors.

The increase in virtual customer support and limitations on customer access by our customer-facing employees that was prompted by the COVID-19 pandemic contributed to our decision to make virtual promotion a more permanent component of our overall selling model and may further change our commercial model or the market strategy in the industry. Should we be unable to evolve with any changes in the commercial landscape, we may be unable to maintain or grow our revenues from the commercialization of LINZESS or successfully commercialize future products. In addition, changes in insurance coverage or reimbursement levels by governmental authorities, private health insurers and other third-party payors, or changes in the type of such coverage held by patients (including changes from commercial insurance to Medicaid) or the loss of coverage by some patients, due to the impacts of the COVID-19 pandemic (including the related increase in unemployment in the U.S.) may negatively impact our revenue from LINZESS. Moreover, continuing impacts to healthcare access or administration (including, for example, limitations on medications or procedures deemed "non-essential" and reduced interaction between patients and physicians) due to the COVID-19 pandemic may impact demand for LINZESS and materially harm our business and commercialization efforts.

Most of our customer-facing employees are engaged in in-person work practices; however, they are limited in the number of in-person details they are able to conduct due to containment and mitigation measures related to the COVID-19 pandemic. We monitor the impact of the COVID-19 pandemic in the territories where our customer-facing employees are engaged in in-person work practices, and in some cases, we have paused or delayed in-person work practices as a result of the impact of the COVID-19 pandemic in those territories, and may do so again in the future. Customer-facing employees who are not providing in-person services continue to support their customers virtually through telephone and web-based technologies. Headquarters employees are expected to have the option to work remotely through late 2021. We may delay, stop or otherwise limit in-person work in the future pending relevant health authority guidance and additional safety or other considerations. If our employees are unable to work from home effectively, or if the COVID-19 pandemic otherwise impacts employees' ability to work, for example due to containment and mitigation measures related to the COVID-19 pandemic, illness, lack of resources or inadequate technology, or restrictions, closures or other limits on school and other childcare options, our business will be materially harmed. Specifically, new or continuing limits on the ability of our customer-facing employees to meet with physicians and patients to visit healthcare providers and pharmacists (including due to continued or future remote working arrangements, containment and mitigation measures that limit access to customers or other restrictions related to the COVID-19 pandemic) may have an extended negative impact on LINZESS sales.

Revenue from LINZESS sales or the progression of our trials will be affected should the COVID-19 pandemic cause significant disruptions to manufacturing operations or supply of LINZESS to the U.S. or API, finished drug product or finished goods for linaclotide or our product candidates, for example due to impacts of the COVID-19 pandemic on personnel involved in the manufacturing and supply chain, international travel and shipping restrictions, inability of vendors to provide services, closed manufacturing sites, or any other disruptions in the international supply

chain. In addition, the COVID-19 pandemic has impacted enrollment in our clinical trials, and may impact clinical trial enrollment or participation in the future, for example due to suspension of in-person procedures required for enrollment or lower or discontinued patient participation compared to pre-COVID-19 pandemic levels. Specifically, prior to our decision to discontinue development of IW-3718, the COVID-19 pandemic impacted enrollment in our Phase III clinical trials of IW-3718 for the treatment of refractory gastroesophageal reflex disease, or refractory GERD. In addition, the progression of our pipeline could be impacted should any of our key vendors, including clinical research organizations, or CROs, and other clinical vendors, be unable to provide timely or sufficient services due to the impact of the COVID- 19 pandemic.

The spread of COVID-19 continues to disrupt the U.S. healthcare and healthcare regulatory system. Capital markets in the U.S. and around the world have also been negatively impacted, which may harm our business, including our ability to obtain future financing. The COVID-19 pandemic, including containment and mitigation measures, has impacted our business and operations, and could have a material adverse impact on our financial condition and results of operations in the future, including for an extended period of time.

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, motivate and retain key personnel.

We may not be able to attract, motivate or retain qualified management and scientific, clinical, operations and commercial personnel due to the intense competition for qualified personnel among biotechnology, pharmaceutical and other businesses, particularly in the greater-Boston area. If we are not able to attract, motivate and retain 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 research, development, regulatory, commercial, financial and other expertise of our management, particularly Thomas A. McCourt, our chief executive officer; John Minardo, our senior vice president and chief legal officer; Jason Rickard, our senior vice president and chief operating officer; and Michael Shetzline, our senior vice president, chief medical officer and head of drug development. Mark Mallon, our former chief executive officer, resigned from his position as chief executive officer and a member of our company's board of directors, in each case effective March 12, 2021. Effective upon Mr. Mallon's departure, Mr. McCourt began serving as our interim chief executive officer, and in June 2021, Mr. McCourt was appointed as our permanent chief executive officer and as a member of our board of directors. In addition, Gina Consylman, our former chief financial officer, resigned from her position as senior vice president and chief financial officer, effective July 2, 2021. Effective upon Ms. Consylman's departure, Mr. Rickard began serving as our principal financial officer while we conduct a retained search for Ms. Consylman's permanent successor. These and any additional transitions in our senior management team or other key employees, or the unavailability of any such persons for any reason, can be inherently difficult to manage and may disrupt our operations or business or otherwise harm our business, for example due to the diversion of our board and management's time and attention and a decline in employee morale. 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, which may or may not be successful.

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 our products. 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 to our information technology structure could compromise our information, disrupt our business and expose us to liability, which would cause our business and reputation to suffer.

In the ordinary course of our business, we collect, process 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 our patients, clinical trial participants and employees. We also rely to a large extent on information technology systems to operate our business, including to deliver our products. We have outsourced elements of our confidential information processing and 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 large and complex information technology and infrastructure (and those of our partners, vendors and third-party providers) may be vulnerable to attacks by hackers or breached due to employee, partner, vendor or third-party 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 organized criminal groups, hacktivists, nation states and others. While we have invested in information technology and security and the protection of confidential information, there can be no assurance that our efforts will prevent service interruptions or security breaches. Further, while some or all of our workforce, and those of our partners, vendors and other third-party providers, work remotely as a result of the COVID-19 pandemic or otherwise, we may have greater vulnerability to cyberattacks or other losses of confidential information, as well as interruptions in information technology systems. Any such interruptions, losses or breaches would substantially impair our ability to operate our business and would compromise our, or our partners, vendors and other third-party providers, 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, negatively impact our financial condition and damage our reputation, any of which could adversely affect our business. While we maintain cyber liability insurance, this insurance may not be sufficient to cover the financial or other losses that may result from an interruption or breach of our (or our partners', vendors' and third-party providers') systems.

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 board of directors is currently divided into three classes serving staggered 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. At our 2019 annual meeting of stockholders, our stockholders approved an amendment to our certificate of incorporation to declassify our board of directors to allow our stockholders to vote on the election of the entire board of directors on an annual basis, rather than on a staggered basis. This declassification is being phased in such that, once completed in 2022, stockholders will have the opportunity to replace the entire board at a single stockholders' meeting and at each annual stockholders' meeting thereafter. As required by Delaware law, the amendment to our certificate of incorporation also reflects that, once the board of directors is declassified, stockholders may remove directors with or without cause.

- 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, as described above, until our board of directors is declassified, 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 super-majority (80%) of the outstanding shares of Class A 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.

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 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 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 AbbVie and involves the use of estimates and judgments, which could be modified in the future. We are highly dependent on our linaclotide partners for timely and accurate information regarding any revenues realized from sales of linaclotide in their respective territories, and in the case of AbbVie for the U.S., 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 or partnership at a given point in time are incorrect, whether the result of a material weakness or not, we could be required to record adjustments in future periods. Such adjustments 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 our products in the countries in which they are approved, as well as the costs associated with such activities;

- any third-party coverage and reimbursement policies for our products;

- market conditions in the pharmaceutical and biotechnology sectors;
- developments, litigation or public concern about the safety of our products or our potential products;
- announcements of the introduction of new products by us or our competitors;
- announcements concerning product development, including clinical trial results or timelines, 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 Class A Common Stock or sales of securities convertible into Class A 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;
- discussion of us or our stock price in the financial or scientific press or in online investor communities; and
- the impact of the COVID-19 pandemic or other public health epidemics, including containment or mitigation measures, or natural disasters.

Our business could be negatively affected as a result of a proxy contest or certain other stockholder actions.

Responding to certain stockholder actions can be costly, disruptive and time-consuming, and could also impact our ability to attract, retain and motivate our employees. For example, a proxy contest for our annual meeting of stockholders relating to stockholder proposals or director nominees would require significant time and could divert the attention of our management, other employees and our board of directors. In addition, a proxy contest would require us to incur significant costs, including legal fees and proxy solicitation expenses. 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 6. ***Exhibits***

See the Exhibit Index on the following page of this Quarterly Report on Form 10-Q.

EXHIBIT INDEX

Exhibit No:	Description
3.1	Eleventh Amended and Restated Certificate of Incorporation. Incorporated by reference to Exhibit 3.1 of Ironwood Pharmaceuticals, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2009, filed with the SEC on March 30, 2010.
3.2	Certificate of Retirement. Incorporated by reference to Exhibit 3.2 of Ironwood Pharmaceuticals, Inc.'s Amendment No. 1 to Form 8-A, filed on January 3, 2019.
3.3	Certificate of Amendment of Eleventh Amended and Restated Certificate of Incorporation. Incorporated by reference to Exhibit 3.1 of Ironwood Pharmaceuticals, Inc.'s Current Report on Form 8-K, filed with the SEC on May 31, 2019.
3.4	Fifth Amended and Restated Bylaws. Incorporated by reference to Exhibit 3.2 of Ironwood Pharmaceuticals, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2009, filed with the SEC on March 30, 2010.
10.1#	Second Amended and Restated Executive Severance Agreement, June 22, 2021, between Ironwood Pharmaceuticals, Inc. and Thomas McCourt. Incorporated by reference to Exhibit 10.1 of Ironwood Pharmaceuticals, Inc.'s Current Report on Form 8-K/A, filed with the SEC on June 24, 2021.
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 – The Instance Document does not appear in the Interactive Data Files because its XBRL tags are embedded within the Inline XBRL 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
104	The cover page from this Quarterly Report on Form 10-Q formatted in Inline XBRL.

* Filed herewith.

‡ Furnished herewith.

Management contract or compensatory plan, contract, or arrangement.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Ironwood Pharmaceuticals, Inc.

Date: August 5, 2021

By: /s/ THOMAS MCCOURT
Thomas McCourt
Chief Executive Officer
(Principal Executive Officer)

Date: August 5, 2021

By: /s/ RONALD SILVER
Ronald Silver
Senior Director, Corporate Controller
(Principal Accounting Officer)

EXHIBIT 31.1

CERTIFICATION PURSUANT
TO RULES 13a-14(a) OR 15d-14(a) UNDER
THE SECURITIES EXCHANGE ACT OF 1934

I, Thomas McCourt, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Ironwood Pharmaceuticals, Inc. (the "registrant");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 5, 2021

/s/ THOMAS MCCOURT
Thomas McCourt
Chief Executive Officer

EXHIBIT 31.2

CERTIFICATION PURSUANT
TO RULES 13a-14(a) OR 15d-14(a) UNDER
THE SECURITIES EXCHANGE ACT OF 1934

I, Jason Rickard, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Ironwood Pharmaceuticals, Inc. (the "registrant");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 5, 2021

/s/ JASON RICKARD
Jason Rickard
Principal Financial Officer

EXHIBIT 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Ironwood Pharmaceuticals, Inc. (the "Company") on Form 10-Q for the period ended June 30, 2021 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Thomas McCourt, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to my knowledge that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ THOMAS MCCOURT
Thomas McCourt
Chief Executive Officer

August 5, 2021

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

EXHIBIT 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Ironwood Pharmaceuticals, Inc. (the "Company") on Form 10-Q for the period ended June 30, 2021 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Jason Rickard, Principal Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to my knowledge that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ JASON RICKARD
Jason Rickard
Principal Financial Officer

August 5, 2021

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.