

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

FORM 10-Q

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

For the quarterly period ended **June 30, 2019**

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: **001-36399**

ADAMAS PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

42-1560076

(I.R.S. Employer Identification No.)

1900 Powell Street, Suite 1000

Emeryville, CA

(Address of principal executive offices)

94608

(Zip Code)

(510) 450-3500

(Registrant's telephone number, including area code)

Not applicable

(Former name, former address and former fiscal year, if changed since last report)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value \$0.001 per share	ADMS	The Nasdaq Global 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	<input type="checkbox"/>	Accelerated filer	<input checked="" type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input checked="" type="checkbox"/>

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

Number of shares outstanding of the issuer's common stock, par value \$0.001 per share, as of July 31, 2019, was 27,771,115.

ADAMAS PHARMACEUTICALS, INC.
QUARTERLY REPORT ON FORM 10-Q
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PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

ADAMAS PHARMACEUTICALS, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(unaudited)
(in thousands, except share and per share data)

	June 30, 2019	December 31, 2018
Assets		
Current assets		
Cash and cash equivalents	\$ 62,737	\$ 56,605
Available-for-sale securities	105,910	154,265
Accounts receivable, net	6,411	5,511
Inventory	5,653	5,121
Prepaid expenses and other current assets	6,296	6,871
Total current assets	187,007	228,373
Property and equipment, net	2,971	3,652
Operating lease right-of-use assets	7,592	—
Prepaid expenses and other non-current assets	2,661	2,789
Total assets	\$ 200,231	\$ 234,814
Liabilities and stockholders' equity		
Current liabilities		
Accounts payable	\$ 6,351	\$ 6,570
Accrued liabilities	16,258	15,530
Current portion of long-term debt	1,585	1,664
Other current liabilities	1,523	512
Total current liabilities	25,717	24,276
Long-term debt	121,943	117,457
Long-term portion of operating lease liabilities	8,367	—
Other non-current liabilities	1,501	3,196
Total liabilities	157,528	144,929
Commitments and Contingencies (Note 8)		
Stockholders' equity		
Preferred stock, \$0.001 par value — 5,000,000 shares authorized, and zero shares issued and outstanding at June 30, 2019 and December 31, 2018	—	—
Common stock, \$0.001 par value — 100,000,000 shares authorized, 27,710,207 and 27,434,358 shares issued and outstanding at June 30, 2019 and December 31, 2018, respectively	32	32
Additional paid-in capital	439,795	432,815
Accumulated other comprehensive gain (loss)	103	(264)
Accumulated deficit	(397,227)	(342,698)
Total stockholders' equity	42,703	89,885
Total liabilities and stockholders' equity	\$ 200,231	\$ 234,814

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

ADAMAS PHARMACEUTICALS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(unaudited)
(in thousands, except per share data)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Revenues:				
Product sales	\$ 12,691	\$ 7,565	\$ 24,356	\$ 10,118
Costs and operating expenses:				
Cost of product sales	685	73	1,098	98
Research and development	8,598	9,806	18,812	16,994
Selling, general and administrative, net	25,216	27,699	52,904	54,062
Total costs and operating expenses	34,499	37,578	72,814	71,154
Loss from operations	(21,808)	(30,013)	(48,458)	(61,036)
Interest and other income, net	734	1,132	1,457	2,010
Interest expense	(3,797)	(5,112)	(7,528)	(9,938)
Net loss	\$ (24,871)	\$ (33,993)	\$ (54,529)	\$ (68,964)
Net loss per share, basic and diluted	\$ (0.90)	\$ (1.26)	\$ (1.98)	\$ (2.61)
Weighted average shares used in computing net loss per share, basic and diluted	27,579	27,040	27,516	26,454

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

ADAMAS PHARMACEUTICALS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(unaudited)
(in thousands)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Net loss	\$ (24,871)	\$ (33,993)	\$ (54,529)	\$ (68,964)
Unrealized gain (loss) on available-for-sale securities	137	(62)	367	(258)
Comprehensive loss	\$ (24,734)	\$ (34,055)	\$ (54,162)	\$ (69,222)

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

ADAMAS PHARMACEUTICALS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(unaudited)
(in thousands, except share data)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balances at December 31, 2017	23,320,551	\$ 28	\$ 277,964	\$ (167)	\$ (211,699)	\$ 66,126
Issuance of common stock in conjunction with Secondary Offering, net of commissions and issuance costs	3,450,000	4	134,260	—	—	134,264
Exercise of stock options	136,154	—	590	—	—	590
Restricted stock units vested	51,309	—	—	—	—	—
Net unrealized loss on available-for-sale securities	—	—	—	(196)	—	(196)
Stock-based compensation	—	—	3,790	—	—	3,790
Net loss	—	—	—	—	(34,971)	(34,971)
Balances at March 31, 2018	26,958,014	32	416,604	(363)	(246,670)	169,603
Issuance of common stock in conjunction with Secondary Offering, net of commissions and issuance costs	—	—	4	—	—	4
Exercise of stock options	169,124	—	1,943	—	—	1,943
Restricted stock units vested	22,687	—	—	—	—	—
Stock issued under employee stock purchase plan	34,618	—	843	—	—	843
Net unrealized loss on available-for-sale securities	—	—	—	(62)	—	(62)
Stock-based compensation	—	—	4,222	—	—	4,222
Net loss	—	—	—	—	(33,993)	(33,993)
Balances at June 30, 2018	27,184,443	\$ 32	\$ 423,616	\$ (425)	\$ (280,663)	\$ 142,560
Balances at December 31, 2018	27,434,358	\$ 32	\$ 432,815	\$ (264)	\$ (342,698)	\$ 89,885
Exercise of stock options	18,230	—	49	—	—	49
Restricted stock units vested	67,391	—	—	—	—	—
Net unrealized gain on available-for-sale securities	—	—	—	230	—	230
Stock-based compensation	—	—	3,410	—	—	3,410
Net loss	—	—	—	—	(29,658)	(29,658)
Balances at March 31, 2019	27,519,979	32	436,274	(34)	(372,356)	63,916
Exercise of stock options	65,064	—	99	—	—	99
Restricted stock units vested	12,860	—	—	—	—	—
Stock issued under employee stock purchase plan	112,304	—	449	—	—	449
Net unrealized gain on available-for-sale securities	—	—	—	137	—	137
Stock-based compensation	—	—	2,973	—	—	2,973
Net loss	—	—	—	—	(24,871)	(24,871)
Balances at June 30, 2019	27,710,207	\$ 32	\$ 439,795	\$ 103	\$ (397,227)	\$ 42,703

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

ADAMAS PHARMACEUTICALS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited)
(in thousands)

	Six Months Ended June 30,	
	2019	2018
Cash flows from operating activities		
Net loss	\$ (54,529)	\$ (68,964)
Adjustments to reconcile net loss to net cash used in operating activities		
Depreciation	692	734
Stock-based compensation	6,323	7,890
Accretion of interest expense	7,528	9,938
Change in fair value of embedded derivative liability	149	44
Net accretion of discounts and amortization of premiums of available-for-sale securities	(675)	(344)
Changes in assets and liabilities		
Accrued interest of available-for-sale securities	54	(234)
Accounts receivable, net	(900)	(3,045)
Inventory	(524)	(1,726)
Prepaid expenses and other assets	619	(4,979)
Operating lease right-of-use assets	413	—
Accounts payable	(253)	3,861
Current portion of long-term debt	(3,121)	(308)
Long-term portion of operating lease liabilities	(482)	—
Accrued liabilities and other liabilities	899	(250)
Net cash used in operating activities	(43,807)	(57,383)
Cash flows from investing activities		
Purchases of property and equipment	(18)	(497)
Purchases of available-for-sale securities	(38,657)	(183,796)
Maturities of available-for-sale securities	88,000	53,560
Net cash provided by (used in) investing activities	49,325	(130,733)
Cash flows from financing activities		
Proceeds from public offerings, net of offering costs	—	134,268
Proceeds from issuance of common stock upon exercise of stock options	165	2,293
Proceeds from employee stock purchase plan	449	843
Net cash provided by financing activities	614	137,404
Net increase (decrease) in cash and cash equivalents	6,132	(50,712)
Cash and cash equivalents at beginning of period	56,605	91,316
Cash and cash equivalents at end of period	\$ 62,737	\$ 40,604
Supplemental disclosure of noncash activities		
Right-of-use assets obtained in exchange for operating lease liabilities	\$ 8,005	\$ —
Purchases of inventory in accounts payable and accrued expenses	\$ 141	\$ 236
Property and equipment in accounts payable and accrued expense	\$ —	\$ 10
Stock-based compensation capitalized in inventory	\$ 60	\$ 122
Stock option exercise settled after period end	\$ —	\$ 240

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

ADAMAS PHARMACEUTICALS, INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(unaudited)

1. DESCRIPTION OF BUSINESS

Adamas Pharmaceuticals, Inc. (the “Company”) focuses on pioneering time-dependent medicines to meaningfully enhance the daily living experience of those affected by CNS disorders. In August 2017, the U.S. Food and Drug Administration (FDA) approved GOCOVRI® (amantadine) extended release capsules (previously ADS-5102), the first and only FDA-approved medication indicated for the treatment of dyskinesia in patients with Parkinson’s disease receiving levodopa-based therapy, with or without concomitant dopaminergic medications. The Company is also advancing its Phase 3 development program of ADS-5102 in development for the treatment of walking impairment in patients with multiple sclerosis. The Company’s goal is to lessen the burden of chronic CNS disorders on patients, caregivers and society.

The Company was incorporated in the State of Delaware on November 15, 2000, and operates as one segment. The Company’s headquarters and operations are located in Emeryville, California.

2. BASIS OF PRESENTATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. The unaudited condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) for interim financial information and with instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, these financial statements do not include all of the information and footnotes required by U.S. GAAP for complete financial statements. In the opinion of management, the condensed consolidated financial statements include all adjustments (consisting only of normal recurring adjustments) considered necessary for the fair presentation of the periods presented. The condensed consolidated balance sheet at December 31, 2018 was derived from the audited consolidated financial statements, but does not include all disclosures required by U.S. GAAP.

These interim financial results are not necessarily indicative of results to be expected for the full fiscal year ending December 31, 2019, or any other future period. Readers should read these interim unaudited condensed consolidated financial statements in conjunction with the audited consolidated financial statements and the related notes thereto for the year ended December 31, 2018, included in the Company’s Annual Report on Form 10-K filed with the U.S. Securities and Exchange Commission, or SEC. The Company’s critical accounting policies are detailed in its Annual Report on Form 10-K for the year ended December 31, 2018. Effective January 1, 2019, the Company adopted Accounting Standards Update (“ASU”) No. 2016-02, *Leases (Topic 842)*, using the modified retrospective method with a cumulative-effect adjustment as of January 1, 2019, in accordance with ASU No. 2018-11, *Leases (Topic 842): Targeted Improvements*. Other than the adoption of the new accounting guidance, the Company’s critical accounting policies have not changed materially from December 31, 2018.

Use of Estimates

The preparation of the accompanying consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities and the reported amounts of revenues and expenses in the consolidated financial statements and the accompanying notes. On an ongoing basis, management evaluates its estimates, including those related to revenue recognition and variable consideration, lease assets and liabilities, clinical trial accruals, fair value of assets and liabilities including short-term and long-term classification, embedded derivatives, income taxes, inventory, and stock-based compensation. Management bases its estimates on historical experience and on various other market-specific and relevant assumptions that management believes to be reasonable under the circumstances. Actual results may differ from those estimates.

Leases

The Company determines if an arrangement is, or contains, a lease at inception. An arrangement is, or contains, a lease if it conveys the right to control the use of identified property, plant or equipment (i.e., an identified asset) for a period of time in exchange for consideration. The Company's arrangements determined to be or contain a lease include explicitly or implicitly identified assets where the Company has the right to substantially all of the economic benefits of the assets and has the ability to direct how and for what purpose the assets are used during the lease term. Operating leases are included in operating lease right-of-use ("ROU") assets, other current liabilities, and operating lease liabilities on its condensed consolidated balance sheets. ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term and any amounts probable of being owed under a residual value guarantee (if applicable). In determining the incremental borrowing rate used to calculate the present value of lease payments, the Company uses the interest rate specified in the lease. If the rate is not readily determinable, which is generally the case for the Company, the Company uses its incremental borrowing rate based on the information available at the commencement date. The operating lease ROU assets also include any lease payments made (including any prepaid rents and initial direct costs) and excludes lease incentives. The lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise any such options. Lease expense for lease payments is recognized on a straight-line basis over the expected lease term. The Company has lease agreements with lease components and non-lease components. For its facility and office equipment lease, the Company accounts for the lease and non-lease components separately. For its vehicle leases, the Company elected the practical expedient to not separate lease components, such as base rent payments, and non-lease components, such as interest, and also applies a portfolio approach to effectively account for the operating lease ROU assets and liabilities, given the volume of individual leases involved in the overall arrangement.

Reclassification

Certain prior period amounts in the accompanying consolidated financial statements have been reclassified to conform to current period presentation.

Recently Adopted Accounting Pronouncements

In February 2016, the FASB issued Accounting Standards Update ("ASU") No. 2016-02, *Leases (Topic 842)*. The authoritative guidance significantly amends the current accounting for leases. Under the new provisions, all lessees will report a right-of-use asset and a liability for the obligation to make payments for all leases with the exception of those leases with a term of 12 months or less. All other leases will fall into one of two categories: (i) a financing lease or (ii) an operating lease. In July 2018, the FASB issued ASU No. 2018-10, *Codification Improvements to Topic 842 (Leases)*, which amends narrow aspects of the guidance issued in the amendments in ASU 2016-02, and ASU No. 2018-11, *Leases (Topic 842): Targeted Improvements*, which allows entities to recognize a cumulative-effect adjustment from the application of ASU 2016-02 to the opening balance of retained earnings in the period of adoption. Effective January 1, 2019, the Company adopted Topic 842 using the modified retrospective method as of January 1, 2019 and will not restate comparative periods. The Company elected the optional package of practical expedients, which allowed the Company to not reassess: (i) whether any expired or existing contracts are considered or contain leases; (ii) lease classification for any expired or existing leases; and (iii) initial direct costs for any existing leases. The new standard also allows entities to make certain policy elections, including a policy to not separate lease and non-lease components, which the Company did not elect for its facility and office equipment lease. The adjustments due to the adoption of Topic 842 primarily related to the recognition of an operating lease right-of-use asset and operating lease liability for the lease. The impact on the condensed consolidated balance sheet as of January 1, 2019, was as follows (in thousands):

	December 31, 2018	Adjustment due to the Adoption of Topic 842	January 1, 2019
Operating lease right-of-use assets	\$ —	\$ 7,566	\$ 7,566
Other current liabilities	512	768	1,280
Long-term portion of operating lease liabilities	—	8,643	8,643
Other non-current liabilities	3,196	(1,844)	1,352

In June 2018, the FASB issued ASU 2018-07, *Compensation – Stock Compensation (Topic 718), Improvements to Nonemployee Share-Based Payment Accounting*, which expands the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from nonemployees. Previously, accounting for share-based payments to employees was covered by ASC Topic 718 while accounting for such payments to non-employees was covered by ASC Subtopic 505-50. Under this new guidance, both sets of awards, for employees and non-employees, will essentially follow the same model, with small variations related to determining the term assumption when valuing a non-employee award as well as a different expense attribution model for non-employee awards as opposed to employee awards. This guidance is effective for fiscal years beginning after December 15, 2018. The adoption of this standard did not have a material impact on the Company's consolidated financial statements.

Recent Accounting Pronouncements Not Yet Adopted

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses of Financial Instruments*; in November 2018 the FASB issued a subsequent amendment ASU No. 2018-19, *Codification Improvements to Topic 326, Financial Instruments—Credit Losses*; in April 2019 the FASB issued ASU No. 2019-04, *Codification Improvements to Topic 326, Financial Instruments—Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments*; and in May 2019 the FASB issued ASU No. 2019-05, *Financial Instruments – Credit Losses (Topic 326): Targeted Transition Relief*. The new guidance changes the methodology for measuring credit losses on financial instruments and the timing of when such losses are recorded. This guidance is effective for fiscal years beginning after December 15, 2019. Early adoption is permitted. The Company is currently evaluating the effect the new guidance will have on its consolidated financial statements.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement*, which modifies the disclosure requirements on fair value measurements. This guidance is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. Early adoption is permitted. The Company is currently evaluating the effect the new guidance will have on its consolidated financial statements.

In November 2018, the FASB issued ASU 2018-18, *Collaborative Arrangements (Topic 808): Clarifying the Interaction between Topic 808 and Topic 606*, which amends ASC 808 to clarify ASC 606 should apply in entirety to certain transactions between collaborative arrangement participants. This guidance is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. Early adoption is permitted. The Company is currently evaluating the effect the new guidance will have on its consolidated financial statements.

3. FAIR VALUE MEASUREMENTS

In accordance with ASC 820-10, Fair Value Measurements and Disclosures, the Company determines the fair value of financial and non-financial assets and liabilities using the fair value hierarchy, which establishes three levels of inputs that may be used to measure fair value, as follows:

- Level 1 inputs, which include quoted prices in active markets for identical assets or liabilities;
- Level 2 inputs, which include observable inputs other than Level 1 inputs, such as quoted prices for similar assets or liabilities, quoted prices for identical or similar assets or liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the asset or liability. For available-for-sale securities, the Company reviews trading activity and pricing as of the measurement date. When sufficient quoted pricing for identical securities is not available, the Company uses market pricing and other observable market inputs for similar securities obtained from various third-party data providers. These inputs either represent quoted prices for similar assets in active markets or have been derived from observable market data; and
- Level 3 inputs, which include unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the underlying asset or liability. Level 3 assets and liabilities include those whose fair value measurements are determined using pricing models, discounted cash flow methodologies, or similar valuation techniques, as well as significant management judgment or estimation.

The following table represents the fair value hierarchy for the Company's financial assets and liabilities which require fair value measurement on a recurring basis (in thousands):

	June 30, 2019			
	Total	Level 1	Level 2	Level 3
Assets:				
Money market	\$ 16,089	\$ 16,089	\$ —	\$ —
Corporate debt	12,989	—	12,989	—
U.S. Treasury securities	87,951	—	87,951	—
Commercial paper	4,970	—	4,970	—
Total assets measured at fair value	<u>\$ 121,999</u>	<u>\$ 16,089</u>	<u>\$ 105,910</u>	<u>\$ —</u>
Liabilities:				
Embedded derivative liability	\$ 1,501	\$ —	\$ —	\$ 1,501
Total liabilities measured at fair value	<u>\$ 1,501</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 1,501</u>

	December 31, 2018			
	Total	Level 1	Level 2	Level 3
Assets:				
Money market	\$ 17,789	\$ 17,789	\$ —	\$ —
Corporate debt	19,792	—	19,792	—
U.S. Treasury securities	131,512	—	131,512	—
Commercial paper	2,961	—	2,961	—
Total assets measured at fair value	<u>\$ 172,054</u>	<u>\$ 17,789</u>	<u>\$ 154,265</u>	<u>\$ —</u>
Liabilities:				
Embedded derivative liability	\$ 1,352	\$ —	\$ —	\$ 1,352
Total liabilities measured at fair value	<u>\$ 1,352</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 1,352</u>

Money market funds are highly liquid investments and are actively traded. The pricing information on these investment instruments are readily available and can be independently validated as of the measurement date. This approach results in the classification of these securities as Level 1 of the fair value hierarchy.

Corporate debt, U.S. Treasury securities, and commercial paper are measured at fair value using Level 2 inputs. The Company reviews trading activity and pricing for these investments as of each measurement date. When sufficient quoted pricing for identical securities is not available, the Company uses market pricing and other observable market inputs for similar securities obtained from various third-party data providers. These inputs represent quoted prices for similar assets in active markets or these inputs have been derived from observable market data. This approach results in the classification of these securities as Level 2 of the fair value hierarchy. In certain cases where there is limited activity or less transparency around inputs to valuation, the related assets or liabilities are classified as Level 3. The Company classified an embedded derivative related to the Royalty-Backed Loan as a Level 3 liability.

The fair value of the embedded derivative as a result of a change in control was calculated using a probability-weighted discounted cash flow model. The model used in valuing this embedded derivative requires the use of significant estimates and assumptions including but not limited to: 1) expected cash flows the Company expects to receive on U.S. net sales of GOCOVRI and on royalties from Allergan on U.S. net sales of Namzaric; 2) the Company's risk adjusted discount rates; and 3) the probability of a change in control occurring during the term of the note based on the percentage of similar companies that were acquired over the previous five year period. Changes in the estimated fair value of the bifurcated embedded derivative are reported as gains or losses in interest and other income, net, in the condensed consolidated statement of operations. In the periods presented, the Company evaluated the embedded derivative value as a result of an event of default and the value as a result of increased costs due to a regulatory change and considered both to have no material value based on current assessment of probability, but could become material in future periods if a specified event of default or regulatory change became more probable than is currently estimated. See Note 9 "Long-Term Debt" for further description.

The following table sets forth a summary of the changes in the estimated fair value of the Company's embedded derivative, which is measured at fair value as a Level 3 liability on a recurring basis (in thousands):

Balance as of December 31, 2018	\$	1,352
Change in fair value included in interest and other income, net		149
Balance as of June 30, 2019	\$	1,501

There were no transfers between any of the levels of the fair value hierarchy during the three and six months ended June 30, 2019.

4. INVESTMENTS

The Company's investments consist of corporate debt, U.S. Treasury securities, and commercial paper classified as available-for-sale securities.

The Company limits the amount of investment exposure as to institution, maturity, and investment type. To mitigate credit risk, the Company invests in investment grade corporate debt, U.S. Treasury securities, and commercial paper. Such securities are reported at fair value, with unrealized gains and losses excluded from earnings and shown separately as a component of accumulated other comprehensive loss within stockholders' equity. Realized gains and losses are reclassified from other comprehensive loss to other income on the condensed consolidated statements of operations when incurred. The Company may pay a premium or receive a discount upon the purchase of available-for-sale securities. Interest earned and gains realized on available-for-sale securities and amortization of discounts received and accretion of premiums paid on the purchase of available-for-sale securities are included in investment income.

The following table is a summary of amortized cost, unrealized gain and loss, and the fair value of available-for-sale securities as of June 30, 2019 and December 31, 2018 (in thousands):

	June 30, 2019			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Investments:				
Corporate debt	\$ 12,965	\$ 24	\$ —	\$ 12,989
U.S. Treasury securities	87,872	80	(1)	87,951
Commercial paper	4,970	—	—	4,970
Total	\$ 105,807	\$ 104	\$ (1)	\$ 105,910
Reported as:				
Short-term investments	\$ 105,807	\$ 104	\$ (1)	\$ 105,910
Long-term investments	—	—	—	—
Total	\$ 105,807	\$ 104	\$ (1)	\$ 105,910
	December 31, 2018			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Investments:				
Corporate debt	\$ 19,833	\$ —	\$ (41)	\$ 19,792
U.S. Treasury securities	131,735	10	(233)	131,512
Commercial paper	2,961	—	—	2,961
Total	\$ 154,529	\$ 10	\$ (274)	\$ 154,265
Reported as:				
Short-term investments	\$ 154,529	\$ 10	\$ (274)	\$ 154,265
Long-term investments	—	—	—	—
Total	\$ 154,529	\$ 10	\$ (274)	\$ 154,265

Short-term investments include accrued interest of \$0.4 million and \$0.5 million as of June 30, 2019 and December 31, 2018, respectively. The Company has not incurred any realized gains or losses on investments for the three and six months ended June 30, 2019 and 2018. Investments are classified as short-term or long-term depending on the underlying investment's maturity date. The Company had no investments with a maturity date greater than 12 months as of June 30, 2019 and December 31, 2018. All investments with unrealized losses at June 30, 2019 have been in a loss position for less than twelve months or the loss is not material and were temporary in nature. The Company does not intend to sell the investments that are in an unrealized loss position before recovery of their amortized cost basis.

5. INVENTORY

The Company began capitalizing inventory in August 2017 once the FDA approved GOCOVRI. Inventory consists of the following (in thousands):

	June 30, 2019	December 31, 2018
Raw materials	\$ 1,291	\$ 1,330
Work-in-process	1,227	2,174
Finished goods	3,135	1,617
Total inventory	<u>\$ 5,653</u>	<u>\$ 5,121</u>

6. LICENSE AGREEMENTS

In November 2012, the Company granted Forest Laboratories Holdings Limited "Forest", an indirect wholly-owned subsidiary of Allergan plc (collectively "Allergan") an exclusive license, with right to sublicense, certain of the Company's intellectual property rights relating to human therapeutics containing memantine in the United States. In connection with these rights, Allergan markets and sells Namzaric[®] and Namenda XR[®] for the treatment of moderate to severe dementia related to Alzheimer's disease.

Pursuant to the agreement, Allergan made an upfront payment of \$65.0 million. The Company earned and received additional cash payments totaling \$95.0 million upon achievement by Allergan of certain development and regulatory milestones. Under the agreement, external costs incurred related to the prosecution and litigation of intellectual property rights are reimbursable. Reimbursable external costs are recorded as a reduction to selling, general and administrative, net. For the three and six months ended June 30, 2019 and 2018, there were no reimbursable external costs for prosecution or litigation of intellectual property rights.

In addition, the Company may earn tiered royalty payments based on future net sales of Namzaric and Namenda XR; however, Allergan's obligation to pay royalties for any product covered by the license is eliminated in any quarter where there is significant competition from generics. Beginning in May 2020, the Company will be entitled to receive royalties at rates in the low to mid-teens from Allergan for sales of Namzaric in the United States. Allergan's obligation to pay royalties with respect to fixed-dose memantine-donepezil products, including Namzaric, continues until the later of (i) 15 years after the commercial launch of the first fixed-dose memantine-donepezil product by Allergan in the United States or (ii) the expiration of the Orange Book listed patents for which Allergan obtained rights from the Company covering such product. Beginning in June 2018, the Company was entitled to receive royalties at rates in the low to mid-single digits for sales of Namenda XR in the United States. The Company does not expect to receive royalties on net sales of Namenda XR, due to the entry of generic versions of Namenda XR. Royalties under the license agreement will be recognized when the related sales occur, in accordance with the sales-based royalty exception.

7. LEASES

Lease Commitments

The Company performed an evaluation of its contracts in accordance with Topic 842 and determined that, except for its facility, vehicle, and office equipment leases, described below, none of its other contracts contain a lease. The Company evaluated all its leases and determined they were operating leases.

In January 2018, the Company amended its Emeryville, California, office facility lease agreement to extend the term to April 30, 2025, and relocate and expand its office space to 37,626 rentable square feet within the same building. The lease contains an option to extend the term for one additional five-year period. The extension option has not been considered in the determination of the right-of-use asset or the lease liability as the Company did not consider it reasonably certain that it would exercise such option. The lease provides for a tenant improvement allowance of approximately \$1.1 million, which the Company fully utilized during the third quarter of 2018.

In 2018, the Company entered into a three-year lease for office equipment that commenced in June 2018 and will be required to make cash payments totaling \$0.2 million during the term of the lease.

In March 2019, the Company entered into a three-year vehicle lease agreement, pursuant to which it currently leases 19 vehicles. Delivery of the vehicles commenced during the second quarter of 2019 and the Company expects to complete delivery of the remainder vehicles during the fourth quarter of 2019. The term for each leased vehicle commences upon the delivery of the vehicle and is for a period of 12 months, with renewal terms at the Company's discretion that can extend the lease term up to 50 months.

As of June 30, 2019, other than described above, the Company did not have additional operating leases that have not yet commenced.

Supplemental balance sheet information related to operating leases were as follows (in thousands):

	<u>June 30, 2019</u>
Assets	
Operating lease right-of-use assets	\$ 7,592
Total right-of-use assets	<u>\$ 7,592</u>
Liabilities	
Current portion included in other current liabilities	\$ 1,229
Long-term portion of operating lease liabilities	8,367
Total operating lease liabilities	<u>\$ 9,596</u>

The components of lease costs, which were included in selling, general and administrative, net in its condensed consolidated statements of operations, were as follows (in thousands):

	<u>Three Months Ended June 30,</u>	<u>Six Months Ended June 30,</u>
	<u>2019</u>	<u>2019</u>
Operating lease cost	\$ 472	\$ 930
Variable lease cost	28	56
Total lease cost	<u>\$ 500</u>	<u>\$ 986</u>

As of June 30, 2019, the maturities of operating lease liabilities were as follows (in thousands):

	<u>Operating leases (1)</u>
2019 (remaining)	\$ 1,091
2020	2,220
2021	2,242
2022	2,181
2023	2,181
Thereafter	3,011
Total lease payments	<u>12,926</u>
Less: Imputed interest	(3,330)
Operating lease liabilities	<u>\$ 9,596</u>

(1) The table above does not include any legally binding minimum lease payments for leases signed but not yet commenced of approximately \$1.1 million.

As of June 30, 2019, the weighted average remaining lease term is 5.7 years and the weighted average operating discount rate used to determine the operating lease liability was 10.8%.

ASC 840 Disclosure

The Company elected the alternative modified transition method and included the following tables previously disclosed. As of December 31, 2018, future minimum lease payments under the non-cancelable facility operating lease, were as follows (in thousands):

	Amount
2019	\$ 1,938
2020	1,996
2021	2,056
2022	2,118
2023	2,181
Thereafter	3,011
Total	\$ 13,300

8. COMMITMENTS AND CONTINGENCIES

Purchase Commitments

The Company has entered into agreements for the supply of API and the manufacture of commercial supply of GOCOVRI, with Moebs Ibérica, S.L. and Catalent Pharma Solutions, LLC, respectively. Under the terms of the agreements, the Company will supply the vendors with non-cancelable firm commitment purchase orders. The Company has also entered into other agreements with certain vendors for the provision of services, including services related to data access and packaging, under which the Company is contractually obligated to make certain payments to the vendors.

The Company enters into contracts in the normal course of business that include, among others, arrangements with CROs for clinical trials, vendors for preclinical research, and vendors for manufacturing. These contracts generally provide for termination upon notice, and therefore the Company believes that its obligations under these agreements are not material.

Contingencies

In the normal course of business, the Company enters into contracts and agreements that contain a variety of representations and warranties and provide for general indemnifications. The Company's exposure under these agreements is unknown, because it involves claims that may be made against the Company in the future, but have not yet been made. The Company accrues a liability for such matters when it is probable that future expenditures will be made and such expenditures can be reasonably estimated.

Indemnification

In accordance with the Company's amended and restated certificate of incorporation and amended and restated bylaws, the Company has indemnification obligations to its officers and directors for certain events or occurrences, subject to certain limits, while they are serving in such capacity. The Company has a directors and officers liability insurance policy that may enable it to recover a portion of any amounts paid for claims. In addition, in the normal course of business, the Company enters into contracts and agreements that may contain a variety of representations and warranties and provide for general indemnifications. For example, the Company provided certain indemnifications to its agents and underwriters as part of the Company's January 2018 underwritten secondary public offering of common stock. Underwriters have now made a claim to such indemnifications in conjunction with the ongoing litigation involving that transaction.

Litigation and Other Legal Proceedings

In November 2012, the Company granted Forest an exclusive license to certain of the Company's intellectual property rights relating to human therapeutics containing memantine in the United States. Under the terms of that license agreement, Forest has the right to enforce such intellectual property rights which are related to its right to market and sell Namzaric and Namenda XR for the treatment of moderate to severe dementia related to Alzheimer's disease. The Company has a right to participate in, but not control, such enforcement actions by Forest.

In 2018 and as of the date of this filing, multiple generic companies have launched generic versions of Namenda XR.

As of the date of this filing, a number of companies have submitted ANDAs including one or more certifications pursuant to 21 U.S.C. § 355(j)(2)(A)(vii)(iv) to the FDA requesting approval to manufacture and market generic versions of Namzaric, on which the Company is entitled to receive royalties from Forest beginning in May 2020.

As of the date of this filing, the Company and Forest have settled with all such Namzaric ANDA filers, including all first filers on all the available dosage forms of Namzaric. Subject to those agreements, the earliest date on which any of these agreements grants a license to market generic version of Namzaric is January 1, 2025 or in the alternative, an option to launch an authorized generic version of Namzaric beginning on January 1, 2026, or earlier in certain circumstances. The Company and Forest intend to continue to enforce the patents associated with Namzaric.

On February 16, 2018, Osmotica Pharmaceuticals LLC and Vertical Pharmaceuticals LLC ("Osmotica") filed an action against the Company in U.S. District Court for the state of Delaware, requesting a declaratory judgment that Osmotica's newly-approved product Osmolex ER™ (amantadine) extended release tablets do not infringe certain of the Company's patents. On September 20, 2018, the Company filed its first amended answer including infringement counterclaims against Osmotica asserting Osmotica has infringed nine Company patents under 35 U.S.C. §§ 271(a), (b), and/or (c) and 35 U.S.C. § 271(e)(2)(A) and seeking various forms of relief, including damages, treble damages, injunctive relief, and an order pursuant to 35 U.S.C. § 271(e)(4)(A) that the effective date of any approval of Osmotica's NDA for Osmolex ER™ be a date that is not earlier than the latest expiration date of the Company patents involved in the lawsuit. This action is ongoing, but was stayed on May 23, 2019 at the parties' joint request.

On March 13, 2018, the FDA's New Paragraph IV Certifications list was updated to reflect that an ANDA seeking authorization from the FDA to manufacture, use, or sell a generic version of GOCOVRI® (amantadine) extended release capsules, containing one or more certifications pursuant to 21 U.S.C. § 355(j)(2)(A)(vii)(IV) ("paragraph IV certification"), was submitted to the FDA on January 16, 2018, and has been accepted for filing. Subsequent to this date, the Company received a letter from attorneys representing Sandoz, Inc. ("Sandoz") dated March 29, 2018, notifying it that Sandoz filed an ANDA for Amantadine Extended-Release Capsules, 137 mg that contains paragraph IV certifications seeking to obtain approval to engage in the commercial manufacture, use or sale of Amantadine Extended-Release Capsules, 137 mg before the expiration of U.S. Patent Nos. 8,389,578; 8,741,343; 8,796,337; 8,889,740; 8,895,614; 8,895,615; 8,895,616; 8,895,617; 8,895,618; 8,895,618; 8,867,791; 9,867,792; 9,867,793; and 9,877,933. On May 10, 2018, the Company filed a lawsuit against Sandoz alleging infringement of the patents against Sandoz in the United States District Court for the District of New Jersey. On July 30, 2018, Sandoz filed its answer, defenses, and counterclaims asserting that the asserted Company patents are invalid and not infringed in response to the Company's May 10, 2018 complaint. This action is ongoing.

On April 1, 2019, the Company was served with a complaint filed in the United States District Court for the Northern District of California (Case No. 3:18-cv-03018-JCS) against the Company and several Allergan entities alleging violations of Federal and state false claims acts ("FCA") in connection with the commercialization of Namenda XR and Namzaric by Allergan. The lawsuit is a *qui tam* complaint brought by a named individual, Zachary Silbersher, asserting rights of the Federal government and various state governments. The lawsuit was originally filed in May 2018 under seal, and the Company became aware of the lawsuit when it was served. The complaint alleges that patents held by Allergan and the Company covering Namenda XR and Namzaric were procured through fraud on the United States Patent and Trademark Office and that these patents were asserted against potential generic manufacturers of Namenda XR and Namzaric to prevent the generic manufacturers from entering the market, thereby wrongfully excluding generic competition resulting in an artificially high price being charged to government payors. The Company's patents in question were licensed exclusively to Forest. The complaint includes a claim for damages of "potentially more than \$2.5

billion dollars,” treble damages “under the federal FCA and most of the State FCAs,” and “statutory penalties that can be assessed for each false claim.” This action is ongoing.

The federal and state governments have declined to intervene in this action. To the Company’s knowledge, the individual plaintiff is pursuing the lawsuit in his individual capacity. The Company believes it has strong factual and legal defenses and intends to defend itself vigorously. The Company is in the early stages of this litigation.

On May 13, 2019, a putative class action lawsuit alleging violations of the federal securities laws was filed in California Superior Court for the County of Alameda (Case No. RG1901875), naming as defendants the Company and certain of the Company’s current and former directors and officers. Other similar cases may be filed in the future. The lawsuit alleges violations of the Securities Exchange Act of 1933 by the Company and certain of the Company’s current and former directors and officers for allegedly making false statements and omissions in the registration statement and prospectus filed by the Company in connection with our January 24, 2018, secondary public offering of common stock. The Plaintiffs seek unspecified monetary damages and other relief. This action is ongoing. The Company believes it has strong factual and legal defenses and intends to defend itself vigorously.

From time to time, the Company may be party to legal proceedings, investigations, and claims in the ordinary course of its business. Other than the matters described above, the Company is not currently party to any material legal proceedings.

9. LONG-TERM DEBT

Royalty-Backed Loan Agreement

In May 2017, the Company, through a new wholly-owned subsidiary, Adamas Pharma, LLC, entered into a Royalty-Backed Loan with HCRP, whereby the Company initially borrowed \$35.0 million, followed by an additional \$65.0 million received in the fourth quarter 2017 upon FDA’s recognition in the Orange Book of seven-year orphan drug exclusivity, which GOCOVRI earned upon approval on August 24, 2017. Principal and interest will be payable quarterly from the proceeds of a 12.5% royalty on U.S. net sales of GOCOVRI and up to \$15.0 million of the Company’s annual royalties from Allergan on U.S. net sales of Namzaric starting in May 2020, pursuant to the Company’s license agreement with Allergan. The royalty rate on net sales of GOCOVRI will drop to 6.25% after the principal amount of the loan has been repaid in full, until the Company has made total payments of 200% of the funded amounts. The Company may elect to voluntarily prepay the loan at any time, or may be required to prepay subject to specified prepayment trigger events as described below, in which case the amount due will be 200% of the funded amounts, less total payments made to date. Royalty rates are subject to increase to 17.5% and 22.5% if total principal and interest payments have not reached minimum specified levels at measurement dates on December 2021 and December 2022, respectively. Under the terms of the loan, HCRP has recourse to Adamas Pharma, LLC, not the Company. The loan agreement matures in December 2026 but as the repayment of the loan amount is contingent upon the sales volumes of GOCOVRI and royalties from Allergan, the repayment term may be shortened depending on the actual sales of GOCOVRI and actual royalties received from Allergan.

The loans bear interest at an annual rate of 11% on the outstanding principal amount and includes an interest-only period until the interest payment date following the ninth full calendar quarter after the \$65.0 million additional loan received in the fourth quarter 2017. To the extent that royalties are insufficient to pay interest in full during the first nine quarters of the loan, any unpaid portion of the quarterly interest payment will be added to the principal amount of the loans.

In connection with the Royalty-Backed Loan, in 2017 the Company paid HCRP a lender expense amount of \$0.4 million and incurred additional debt issuance costs totaling \$0.8 million. The lender expense and additional debt issuance costs have been recorded as a debt discount and are being amortized and recorded as interest expense over the estimated term of the loan using the effective interest method. The Company recorded interest expense, including amortization of the debt discount, related to the Royalty-Backed Loan, of \$3.8 million and \$7.5 million for the three and six months ended June 30, 2019, respectively, and \$5.1 million and \$9.9 million for the three and six months ended June 30, 2018, respectively. Interest expense over the life of the Royalty-Backed Loan includes an annual interest rate of 11% on the outstanding principal, a royalty rate of 6.25% on net sales of GOCOVRI after the principal amount is paid,

and amortization of the debt discount. The effective interest rate as of June 30, 2019 on the amounts borrowed under the Royalty-Backed Loan, including the amortization of the debt discount, was 14.3%.

The assumptions used in determining the expected repayment term of the loan and amortization period of the debt discount require that the Company make estimates that could impact the short and long-term classification of these costs, as well as the period over which these costs will be amortized and the effective interest rate.

The Company may be required to make mandatory prepayments of the borrowings under the Royalty-Backed Loan upon the occurrence of specified prepayment trigger events, including: (1) the occurrence of any event of default or (2) the occurrence of a change in control. Upon the prepayment of all or any of the outstanding principal balance, the Company shall pay, in addition to such prepayment, a prepayment premium. As HCRP, as the holder of the loans, may exercise the option to require prepayment by the Company, the prepayment premium is considered to be an embedded derivative which is required to be bifurcated from its host contract and accounted for as a separate financial instrument. The valuation of the embedded derivative is described further in Note 3.

Payment obligations under the Royalty-Backed Loan are as follows (in thousands):

	June 30, 2019	December 31, 2018
Total repayment obligation	\$ 200,000	\$ 200,000
Less: Interest to be accreted in future periods	(70,733)	(78,261)
Less: Payments made	(5,739)	(2,618)
Carrying value of loans payable	\$ 123,528	\$ 119,121
Less: Current portion of long-term debt	(1,585)	(1,664)
Non-current portion of long-term debt	\$ 121,943	\$ 117,457

The estimated fair value of the long-term debt, as measured using Level 3 inputs, approximates \$106.6 million as of June 30, 2019. The estimated fair value was calculated in the same methodology as the valuation of the embedded derivative as described further in Note 3.

There are no contractual minimum principal payments due until the loan matures in December 2026 as the repayment of the loan amount is contingent upon the sales volumes of GOCOVRI and royalties from Allergan on U.S. net sales of Namzaric.

10. STOCKHOLDERS' EQUITY

Common Stock

The amended and restated certificate of incorporation authorizes the Company to issue 100,000,000 shares of common stock. Common stockholders are entitled to dividends as and when declared by the board of directors, subject to the rights of holders of all classes of stock outstanding having priority rights as to dividends. There have been no dividends declared to date. Each share of common stock is entitled to one vote.

Public Offering

In January 2018, the Company completed a follow-on public offering of 3,450,000 shares of common stock, which includes the exercise in full by the underwriters of their option to purchase 450,000 shares of common stock, at an offering price of \$41.50 per share. Proceeds from the follow-on public offering were approximately \$134.3 million, net of underwriting discounts and offering-related transaction costs.

Sales Agreement

In May 2017, the Company entered into a sales agreement ("Sales Agreement") with Cowen and Company, LLC ("Cowen"), as sales agent, pursuant to which the Company may, from time to time, issue and sell at its option, shares of the Company's common stock for an aggregate offering price of up to \$50.0 million under an at-the-market offering ("ATM Offering"). Sales of the common stock, if any, will be made pursuant to a shelf registration statement that was declared effective by the Securities and Exchange Commission ("SEC") on November 21, 2016. Cowen is acting as sole sales agent for any sales made under the Sales Agreement and the Company will pay Cowen a commission

of up to 3% of the gross proceeds. The Company's common stock will be sold at prevailing market prices at the time of the sale, and, as a result, prices may vary.

The Company is not obligated to make any sales of shares of common stock under the Sales Agreement. Unless otherwise terminated earlier, the Sales Agreement continues until all shares available under the Sales Agreement have been sold. As of June 30, 2019, no shares have been sold under the Sales Agreement.

Shares Reserved for Future Issuance

Shares of the Company's common stock reserved for future issuance are as follows:

	June 30, 2019	December 31, 2018
Common stock awards issued and outstanding	6,616,103	5,949,436
Authorized for future issuance under 2014 Equity Incentive Plan	2,292,103	1,814,179
Authorized for future issuance under 2016 Inducement Plan	751,678	512,440
Employee stock purchase plan	1,009,145	847,105
Total	10,669,029	9,123,160

11. STOCK-BASED COMPENSATION

Stock Compensation Plans

In January 2019, the common stock available for issuance under the 2014 Equity Incentive Plan (the "2014 Plan") automatically increased by 4% of the total number of shares of the Company's capital stock outstanding on December 31, 2018, or 1,097,374 shares.

In March 2016, the Company's board of directors approved the 2016 Inducement Plan (the "Inducement Plan") under which 450,000 shares of the Company's common stock were made available for issuance. In each of January 2017, November 2017, and March 2019, an amendment to the Inducement Plan was approved to increase the number of shares available for issuance an additional 450,000 shares, for a total of 1,350,000, resulting in a total of 1,800,000 shares of common stock issuable under the Inducement Plan.

Employee Stock Purchase Plan

In January 2019, the common stock available for issuance under the 2014 Employee Stock Purchase Plan (the "ESPP") automatically increased by 1% of the total number of shares of the Company's capital stock outstanding on December 31, 2018, or 274,344 shares.

Stock-Based Compensation Expense

The following table reflects stock-based compensation expense recognized for the three and six months ended June 30, 2019 and 2018 (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Research and development	\$ 563	\$ 717	\$ 1,153	\$ 1,489
Selling, general and administrative	2,376	3,432	5,170	6,401
Total stock-based compensation expense	\$ 2,939	\$ 4,149	\$ 6,323	\$ 7,890

Stock-based compensation of \$34,000 and \$60,000 was capitalized into inventory for the three and six months ended June 30, 2019, respectively, and \$73,000 and \$122,000 for the three and six months ended June 30, 2018, respectively. Stock-based compensation capitalized into inventory is recognized as cost of sales when the related product is sold.

12. NET LOSS PER SHARE

For all periods presented, there is no difference in the number of shares used to compute basic and diluted shares outstanding due to the Company's net loss position. The following total outstanding shares of potentially dilutive securities were excluded from the computation of diluted net loss per share for the periods presented, because including them would have been anti-dilutive (in thousands):

	Three and Six Months Ended June 30,	
	2019	2018
Options to purchase common stock	5,716	5,659
Restricted stock units	900	476
Total	6,616	6,135

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with our condensed consolidated financial statements and related notes included elsewhere in this report. This discussion and other parts of this report contain forward-looking statements that involve risk and uncertainties, such as statements of our plans, objectives, expectations and intentions. Our actual results could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the section of this report entitled "Risk factors."

Overview

At Adamas Pharmaceuticals, Inc., we are pioneering time-dependent medicines to meaningfully enhance the daily living experience of those affected by CNS disorders. Our vision is to create a world in which time-dependent medicines are the standard of care for CNS disorders. With one partnered product (a commercial medicine), an approved medicine in Parkinson's disease, and an on-going Phase 3 study in walking impairment in patients with multiple sclerosis, we believe we are well on our way. Our therapeutic focus includes a broad range of neurologic diseases, including Parkinson's disease, Alzheimer's disease, and multiple sclerosis.

Our treatment innovations stem from a deep scientific understanding of time-dependent biology – the deliberate mapping of disease patterns and drug activity – along with a goal to meaningfully increase the efficacy of known molecules without compromising tolerability. This approach is designed to ensure that our medicines fit within, rather than define, people's daily lives. Our goal is to lessen the burden of chronic CNS disorders on patients, caregivers and society.

Our understanding of time-dependent biological processes informs our every innovation targeting advancements in treatment of CNS disorders. Our expanding portfolio includes:

Approved Product:

- GOCOVRI® (amantadine) extended release capsules, formerly referred to as ADS-5102, is the first and only FDA-approved medication indicated for the treatment of dyskinesia in patients with Parkinson's disease receiving levodopa-based therapy, with or without concomitant dopaminergic medications. It is also the only medicine clinically proven to reduce both dyskinesia and OFF in that population. GOCOVRI was approved for marketing by the U.S. Food and Drug Administration, or FDA, on August 24, 2017, with seven years of orphan exclusivity and additional patent protections out to 2034, and we fully launched GOCOVRI with a deployed sales force in January 2018.

Potential Additional Indications for GOCOVRI (amantadine) Extended Release Capsules (ADS-5102):

- ADS-5102 in development for the treatment of walking impairment in patients with multiple sclerosis. We have initiated the first of two pivotal Phase 3 studies in this supplemental indication with enrollment completed and topline results expected late in the fourth quarter of 2019.
- ADS-5102 in research and potential development for additional indications. We expect to complete and announce the results of our assessment of potential additional indications for ADS-5102 if and when specific clinical trials are initiated.

Namzaric®:

- Namzaric® (memantine hydrochloride extended release and donepezil hydrochloride) capsules for the treatment of moderate to severe dementia of an Alzheimer's type, marketed in the United States by Allergan plc under an exclusive license agreement between us and Forest Laboratories Holdings Limited ("Forest"), an indirect wholly-owned subsidiary of Allergan plc (collectively, "Allergan").

Consistent with our 2019 corporate focus on the commercialization of GOCOVRI and the results in our Phase 3 program investigating ADS-5102 in walking impairment in patients with multiple sclerosis due in the later part of 2019, we have deferred additional investment in the development of our product candidate ADS-4101 for the treatment of partial onset seizures in patients with epilepsy.

Products in our wholly-owned, non-partnered portfolio, potential additional indications for these products, and our product candidates, are protected by an array of intellectual property, including robust and diversified patent claims, and regulatory exclusivities. For example, GOCOVRI is protected by orphan exclusivity until August 2024 and additional patent protections through 2034.

Financial operations overview

Summary

As of June 30, 2019, we had cash, cash equivalents, and available-for-sale securities of \$168.6 million. We are commercializing GOCOVRI through our deployed sales force targeting neurologists and movement disorder specialists in the United States, and may possibly commercialize GOCOVRI through partnership agreements with pharmaceutical companies outside the United States. As of June 30, 2019, we had an accumulated deficit of \$397.2 million.

In January 2018, we raised \$134.3 million in net proceeds from the sale of 3,450,000 shares of common stock in a follow-on public offering. Prior to 2018, we raised an aggregate of approximately \$202.3 million in sales of equity securities and borrowed a total of \$100.0 million under a royalty-backed loan agreement (“Royalty-Backed Loan”) with HealthCare Royalty Partners (“HCRP”). In May 2017, we entered into a sales agreement with Cowen and Company, LLC, pursuant to which we may, from time to time, issue and sell shares of common stock having an aggregate offering value of up to \$50.0 million. As of June 30, 2019, we have not sold any shares under the sales agreement.

Revenue

Product sales consist of sales of GOCOVRI, which was approved by the FDA on August 24, 2017. We began commercial sales of GOCOVRI in the fourth quarter of 2017, and initiated the full commercial launch via the deployment of our sales team in January 2018.

Prior to the generation of product sales from GOCOVRI, our revenue had been generated primarily from payments under our license agreement with Allergan for non-refundable upfront license payments, milestone payments, and reimbursements for research and development expenses for full-time equivalents assigned to the license agreement. There are no further milestone payments to be earned under our license agreement with Allergan, and we expect reimbursements for full-time equivalents assigned to the license agreement to be inconsequential in future periods. Beginning in May 2020, we are entitled to receive tiered royalties from Allergan in the low to mid-teens, as a percent of net sales of Namzaric in the United States.

Cost of product sales

Cost of product sales consist primarily of direct and indirect costs related to the manufacturing of GOCOVRI products sold, including third-party manufacturing costs, packaging services, freight, allocation of overhead costs, and inventory adjustment charges. We began capitalizing inventory manufactured at the FDA approved locations upon FDA approval of GOCOVRI and upon FDA approval of a supplemental NDA for a second manufacturing site with our current third-party manufacturer. We recorded inventory acquired prior to the regulatory approvals as research and development expense.

Research and development expenses

Research and development expenses represent costs incurred to conduct research, such as the discovery and development of our wholly-owned product candidates. We recognize all research and development costs as they are incurred.

Research and development expenses consist of:

- fees paid to clinical investigators, clinical trial sites, consultants, and vendors, including contract research organizations, or CROs, in conjunction with implementing, conducting, and monitoring our clinical trials and acquiring and evaluating clinical trial data, including all related fees, such as for investigator grants, patient screening fees, laboratory work, and statistical compilation and analysis;
- expenses related to production of clinical supplies, including fees paid to contract manufacturing organizations, or CMOs;
- expenses related to establishment and validation of manufacturing capabilities for commercial supply;

- expenses related to the buildup of commercial supply to support commercial launch, prior to FDA approval;
- expenses related to compliance with regulatory requirements;
- other consulting fees paid to third parties; and
- employee-related expenses, which include salaries, benefits, and stock-based compensation.

The following table summarizes our research and development expenses incurred during the three and six months ended June 30, 2019 and 2018 (in thousands):

	Three Months Ended June 30,		Increase (Decrease)	Six Months Ended June 30,		Increase (Decrease)
	2019	2018		2019	2018	
GOCOVRI ⁽¹⁾	\$ 6,234	\$ 7,107	\$ (873)	\$ 13,276	\$ 12,689	\$ 587
ADS-4101 ⁽²⁾	1,001	1,426	(425)	2,459	2,363	96
Other research and development expenses	1,363	1,273	90	3,077	1,942	1,135
Total research and development expenses	\$ 8,598	\$ 9,806	\$ (1,208)	\$ 18,812	\$ 16,994	\$ 1,818

(1) Includes program costs we incurred for GOCOVRI (formerly referred to as ADS-5102) for the treatment of dyskinesia in patients with Parkinson's disease, and ADS-5102 (GOCOVRI) for additional potential CNS indications, including for the treatment of walking impairment in patients with multiple sclerosis.

(2) We reduced investments in ADS-4101 in the quarter ended June 30, 2019.

The program-specific expenses summarized in the table above include costs directly attributable to our product candidates. Other research and development expenses include costs for early stage programs and costs not allocated to a specific program. We allocate benefits, stock-based compensation, and indirect costs to our product candidates on a program-specific basis, and we include these costs in the program-specific expenses. We begin to track and report program-specific expenses for early stage programs once they have been nominated and selected for further development and clinical-stage work has commenced.

Our investment in research and development activities, including the clinical development of our product candidates, has historically represented a significant portion of our total operating expenses. We anticipate incurring significant research and development expenses as we continue to support: clinical trials for ADS-5102 (GOCOVRI) in indications beyond dyskinesia in patients with Parkinson's disease, including but not limited to: walking impairment in patients with multiple sclerosis, or MS Walking, and other indications. However, due to the conclusion of the two-year Phase 3 open-label study of GOCOVRI and our decision to suspend investment in the development of ADS-4101, our quarterly research and development costs decreased in the quarter ended June 30, 2019, and we expect will continue to remain lower than in the quarter ended March 31, 2019, for at least the remainder of the year.

The process of conducting the necessary clinical research to obtain FDA approval is costly and time consuming. We consider the active management and development of our clinical pipeline to be crucial to our long-term success. The actual probability of success for each product candidate and clinical program may be affected by a variety of factors, including but not limited to, the quality of the product candidate, early clinical data, investment in the program, competition, manufacturing capability, and commercial viability. Furthermore, in the past we have entered into licensing arrangements with other pharmaceutical companies to develop and commercialize our product candidates, and we may enter into additional licensing arrangements or collaborations in the future. In situations in which third parties have control over the clinical development of a product candidate, the estimated completion dates are largely under the control of such third parties and not under our control. We cannot forecast with any degree of certainty which of our product candidates, if any, will be subject to future licensing or collaboration arrangements or how such arrangements would affect our development plans or capital requirements. As a result of the uncertainties discussed above, we are unable to determine the duration and completion costs of our research and development projects or when and to what extent we will generate revenue from the commercialization and sale of any of our product candidates.

Selling, general and administrative expenses, net

Selling, general and administrative expenses, net, consist primarily of personnel and related benefit costs, including stock-based compensation, facilities, professional services, insurance, public company related expenses, charitable contribution expenses, as well as the costs associated with supporting the commercialization of GOCOVRI,

reduced to a small degree by reimbursement from Allergan for external costs related to supporting prosecution and litigation of intellectual property rights under our license agreement. We anticipate our selling, general and administrative expenses will remain significant and continue to increase as we continue to support the commercialization of GOCOVRI.

Interest and other income, net

Interest and other income, net, consists of changes in fair value of the embedded derivative liability related to our Royalty-Backed Loan with HCRP, in addition to interest received on our investments.

Interest expense

Interest expense consists of accrued interest pursuant to our Royalty-Backed Loan and amortization of debt issuance costs. Interest expense accrues using the effective interest rate method over the estimated period the debt is expected to be repaid. Interest expense over the life of the Royalty-Backed Loan includes an annual interest rate of 11% on the outstanding principal, a royalty rate of 6.25% on net sales of GOCOVRI after the principal amount is paid, and amortization of the debt discount, until a maximum aggregate repayment amount has been reached.

Critical accounting policies and significant judgments and estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our financial statements, which have been prepared in accordance with United States generally accepted accounting principles, or U.S. GAAP. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenue generated and expenses incurred during the reporting periods. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. We have discussed the development, selection, and disclosure of these estimates with the Audit Committee of our Board of Directors. Actual results may differ from these estimates under different assumptions or conditions. Our critical accounting policies have not changed from those as reflected in "Management's Discussion and Analysis of Financial Condition and Results of Operations," in our Annual Report on Form 10-K for the year ended December 31, 2018, except for our adoption, effective January 1, 2019, of Accounting Standards Update ("ASU") No. 2016-02, *Leases (Topic 842)*. See "Note 2 – Basis of Presentation and Summary of Significant Accounting Policies" in the accompanying "Notes to Condensed Consolidated Financial Statements (unaudited)," which information is incorporated by reference here, for a description our adoption of this accounting standard.

Results of operations

Fluctuations in Operating Results

Our results of operations have fluctuated from quarter to quarter and year to year and are likely to continue to do so in the future. The approximate number of total paid prescriptions in the first quarter of 2019 was 5,820, and in the second quarter of 2019 was 6,160, an increase of approximately 6% over the preceding quarter. Our new free drug trial program, which is intended to increase the amount of total paid prescriptions over time, in the near term may reduce paid prescriptions and quarterly revenue and could continue to do so in subsequent quarters. After one full quarter of the free drug trial program being in place, the conversion from a free trial to a paid prescription is currently 40-50%.

Comparison of the three and six months ended June 30, 2019 and 2018

The following table summarizes our results of operations for the three and six months ended June 30, 2019 and 2018 (in thousands, except percentages):

	Three Months Ended June 30,		Increase (Decrease)	% Increase (Decrease)	Six Months Ended June 30,		Increase (Decrease)	% Increase (Decrease)
	2019	2018			2019	2018		
Product sales	\$ 12,691	\$ 7,565	\$ 5,126	68 %	\$ 24,356	\$ 10,118	\$ 14,238	141 %
Cost of product sales	685	73	612	NM	1,098	98	1,000	NM
Research and development expenses	8,598	9,806	(1,208)	(12)%	18,812	16,994	1,818	11 %
Selling, general and administrative expenses, net	25,216	27,699	(2,483)	(9)%	52,904	54,062	(1,158)	(2)%
Interest and other income, net	734	1,132	(398)	(35)%	1,457	2,010	(553)	(28)%
Interest expense	3,797	5,112	(1,315)	(26)%	7,528	9,938	(2,410)	(24)%

NM – Not meaningful.

Product sales

Product sales increased by \$5.1 million to \$12.7 million for the three months ended June 30, 2019, from \$7.6 million for the three months ended June 30, 2018, and increased by \$14.2 million to \$24.4 million for the six months ended June 30, 2019, from \$10.1 million for the six months ended June 30, 2018. The increase in both periods was due to growth in sales of GOCOVRI since its launch, in addition to a 7.7% price increase that went into effect in January 2019.

Cost of product sales

Cost of product sales increased by \$0.6 million to \$0.7 million, or 5% of product sales, for the three months ended June 30, 2019, from \$73,000, or 1% of product sales, for the three months ended June 30, 2018, and increased by \$1.0 million to \$1.1 million, or 5% of product sales for the six months ended June 30, 2019 from \$98,000, or 1% of product sales for the six months ended June 30, 2018. We received regulatory approval for GOCOVRI from the FDA in August 2017. Cost of product sales consists of certain fill finish costs incurred after FDA approval related to the cost of GOCOVRI products sold, in addition to certain distribution and overhead costs and for the three and six months ended June 30, 2019, a one-time charge related to amending our agreement with our CMO. Prior to receiving FDA approval, we recorded all inventory costs incurred in the manufacture of GOCOVRI to be sold upon commercialization as research and development expense. We expect to use inventory previously expensed to research and development within the next twelve months, and accordingly we expect our cost of product sales of GOCOVRI to increase as a percentage of product sales in future periods once this inventory has been sold and we produce and then sell inventory that reflects the full cost of manufacturing the product.

Research and development expenses

Research and development expenses decreased by \$1.2 million, or 12%, to \$8.6 million for the three months ended June 30, 2019, from \$9.8 million for the three months ended June 30, 2018. The decrease in research and development expenses was mainly attributable to decreased costs associated with GOCOVRI for the treatment of dyskinesia in patients with Parkinson's disease due to the conclusion of the two-year Phase 3 open-label study of GOCOVRI in the fourth quarter of 2018, in addition to decreased costs related to the decision during the second quarter of 2019 to defer additional investment in the development of our product candidate ADS-4101 for the treatment of partial onset seizures in patients with epilepsy. The decrease was offset in part by increased costs related to activity for our Phase 3 study in support of ADS-5102 for the treatment of walking impairment in patients with multiple sclerosis. Included in research and development expenses was stock-based compensation expense, which was \$0.6 million for the three months ended June 30, 2019 compared to \$0.7 million for the three months ended June 30, 2018.

Research and development expenses increased by \$1.8 million, or 11%, to \$18.8 million for the six months ended June 30, 2019, from \$17.0 million for the six months ended June 30, 2018. The increase in research and development expenses was mainly attributable to our Phase 3 study in support of ADS-5102 for the treatment of walking impairment in patients with multiple sclerosis, in addition to increased costs related to early stage programs. The increase was offset in part by decreased costs associated with GOCOVRI for the treatment of dyskinesia in patients with Parkinson's disease due to the conclusion of the two-year Phase 3 open-label study of GOCOVRI in the fourth quarter of 2018. Included in research and development expenses was stock-based compensation expense, which was \$1.2 million for the six months ended June 30, 2019 compared to \$1.5 million for the six months ended June 30, 2018.

Selling, general and administrative expenses, net

Selling, general and administrative expenses, net, decreased by \$2.5 million, or 9%, to \$25.2 million for the three months ended June 30, 2019, from \$27.7 million for the three months ended June 30, 2018, primarily due to: a decrease of approximately \$3.5 million for GOCOVRI related promotional costs, market research and other external service costs as compared to the same period in the prior year in which we experienced higher costs associated with the full commercial launch of GOCOVRI; in addition to a \$1.1 million decrease in stock-based compensation expense. The decrease was offset in part by increased costs for other personnel related expenses of \$1.1 million primarily related to certain one-time charges and increased costs of approximately \$1.0 million for legal fees to defend our intellectual property, other professional services and general corporate expenses.

Selling, general and administrative expenses, net, decreased by \$1.2 million, or 2%, to \$52.9 million for the six months ended June 30, 2019, from \$54.1 million for the six months ended June 30, 2018, primarily due to: a decrease of approximately \$7.2 million for GOCOVRI related promotional costs, market research and other external service costs as compared to the same period in the prior year in which we experienced higher costs associated with the full commercial launch of GOCOVRI; in addition to a \$1.2 million decrease in stock-based compensation expense. The decrease was offset in part by increased costs for other personnel related expenses of \$2.3 million primarily related to certain one-time charges and increased costs of approximately \$4.9 million for legal fees to defend our intellectual property, personnel related costs, other professional services and general corporate expenses.

Interest and other income, net

Interest and other income, net, for the three and six months ended June 30, 2019 was \$0.7 million and \$1.5 million, respectively, compared to \$1.1 million and \$2.0 million for the three and six months ended June 30, 2018, respectively. The decrease in interest and other income, net, for both the three and six months ended June 30, 2019, was primarily driven by interest income earned on lower cash and investment balances.

Interest expense

Interest expense was \$3.8 million and \$7.5 million for the three and six months ended June 30, 2019, respectively, compared to \$5.1 million and \$9.9 million for the three and six months ended June 30, 2018, respectively. The decrease in interest expense for both the three and six months ended June 30, 2019, was mainly related to a lower estimated effective interest rate on our Royalty-Backed Loan with HCRP.

Liquidity and Capital Resources

Since January 1, 2018, we have funded our operations primarily through sales of our common stock, our Royalty-Backed Loan with HCRP, and sales of GOCOVRI. In January 2018, we completed a follow-on public offering of our common stock from which proceeds raised were approximately \$134.3 million, net of underwriting discounts, commissions, and offering-related transaction costs.

In May 2017, we entered into a sales agreement with Cowen and Company, LLC, pursuant to which we may, from time to time, issue and sell shares of common stock having an aggregate offering value of up to \$50.0 million. As of June 30, 2019, no shares had been sold under the sales agreement.

We made GOCOVRI available for physician and patient use in the fourth quarter of 2017, with a full commercial launch via the deployment of our sales team in January 2018. Prior to the generation of revenue from GOCOVRI, we had not generated any commercial revenue from the sale of our products. Our principal sources of liquidity are our cash, cash equivalents, and investments, which totaled \$168.6 million and \$210.9 million at June 30, 2019 and December 31, 2018, respectively.

We believe our existing cash, cash equivalents, and investments will be sufficient to fund our projected operating requirements, including operations related to the continued development of our product candidates and commercialization of GOCOVRI for the treatment of dyskinesia in patients with Parkinson's disease, for at least 12 months from the issuance of this quarterly report on Form 10-Q. However, it is possible that we will not achieve the progress that we expect, because revenues from GOCOVRI may be less than anticipated and the actual costs and timing of drug development, particularly clinical studies, and regulatory approvals are difficult to predict, subject to substantial

risks and delays, and often vary depending on the particular indication and development strategy. Moreover, the costs associated with commercializing drugs are high and market acceptance is uncertain.

We expect to incur substantial expenses and operating losses for the foreseeable future. We expect to continue significant spending in connection with the commercialization of GOCOVRI for the treatment of dyskinesia in patients with Parkinson's disease, as well as the development of ADS-5102 for walking impairment in patients with multiple sclerosis, and potential development of additional product candidates. To continue these activities, we may decide to raise additional funds through a combination of public or private equity offerings, debt financings, royalty financings, collaborations, strategic alliances, licensing arrangements, asset sales, and other marketing and distribution arrangements. Sufficient additional funding may not be available on acceptable terms, or at all. If adequate funds are not available in the future, we may need to delay, reduce the scope of, or put on hold our clinical studies, research and development programs, or commercialization efforts.

The following table summarizes our cash flows for the periods indicated (in thousands):

	Six Months Ended June 30,	
	2019	2018
Net cash (used in) provided by:		
Operating activities	\$ (43,807)	\$ (57,383)
Investing activities	49,325	(130,733)
Financing activities	614	137,404
Net increase (decrease) in cash and cash equivalents	<u>\$ 6,132</u>	<u>\$ (50,712)</u>

Net Cash Used In Operating Activities

Net cash used in operating activities was \$43.8 million for the six months ended June 30, 2019 and consisted primarily of our net loss of \$54.5 million less non-cash adjustments of \$14.0 million mainly for stock-based compensation of \$6.3 million and interest expense of \$7.5 million, in addition to payments related to our Royalty-Backed Loan with HCRP of \$3.1 million.

Net Cash Provided By Investing Activities

Net cash provided by investing activities was \$49.3 million for the six months ended June 30, 2019, mainly as a result of net maturities of available-for-sale securities.

Net Cash Provided By Financing Activities

Net cash provided by financing activities was \$0.6 million for the six months ended June 30, 2019, as a result of net cash proceeds from the exercise of stock options and purchases of common stock under the Employee Stock Purchase Plan.

Off-balance sheet arrangements

Since our inception, we have not engaged in any off-balance sheet arrangements, including the use of structured finance, special purpose entities, or variable interest entities.

Contractual obligations

Our future non-cancelable contractual obligations were reported in our Annual Report on Form 10-K for the year ended December 31, 2018 that was filed with the SEC on March 4, 2019. Other than the following, there have been no material changes outside the ordinary course of our business to our future non-cancelable contractual obligations during the six months ended June 30, 2019. In June 2019, we amended our commercial supply agreement with Catalent Pharma Solutions, LLC whereby as consideration for the revision of certain annual minimum requirements for the manufacture of commercial supply of GOCOVRI, we agreed to a one-time charge to be made in two non-refundable, non-cancelable payments. This one-time charge has been included in cost of product sales in our condensed consolidated statement of operations for the three and six months ended June 30, 2019.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are a smaller reporting company as defined by Rule 12b-2 of the Securities Exchange Act of 1934 and are not required to provide the information under this item.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and the rules and regulations thereunder, is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow for timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

As required by Rule 13a-15(b) under the Exchange Act, our management, under the supervision and with the participation of our principal executive officer and principal financial officer, has evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of June 30, 2019. Based on such evaluation, our principal executive officer and principal financial officer have concluded that, as of June 30, 2019, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal controls over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the quarter ended June 30, 2019, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

For information regarding legal proceedings, refer to *Litigation and Other Legal Proceedings* in “Note 8 – Commitments and Contingencies” in the accompanying “Notes to Condensed Consolidated Financial Statements (unaudited),” which information is incorporated by reference here.

ITEM 1A. RISK FACTORS

We have identified the following risks and uncertainties that may have a material adverse effect on our business, financial condition, results of operations, and future growth prospects. Our business could be harmed by any of these risks. The risks and uncertainties described below are not the only ones we face. The trading price of our common stock could decline due to any of these risks, and you may lose all or part of your investment. In assessing these risks, you should also refer to the other information contained in this Quarterly Report on Form 10-Q, including our unaudited condensed consolidated financial statements and related notes.

Risks related to the commercialization of GOCOVRI® (amantadine) extended release capsules (formerly ADS-5102)

Our success depends heavily on the success of GOCOVRI for the treatment of dyskinesia in patients with Parkinson’s disease receiving levodopa-based therapy, with or without concomitant dopaminergic medications. To the extent GOCOVRI is not commercially successful, our business, financial condition and results of operations will be materially harmed.

We have invested and continue to invest a significant portion of our efforts and financial resources in the development, approval and commercialization of GOCOVRI for the treatment of dyskinesia in patients with Parkinson’s disease receiving levodopa-based therapy, with or without concomitant dopaminergic medications. The success of GOCOVRI will depend on numerous factors, including:

- our success in the marketing, sales, and distribution of GOCOVRI;
- successfully establishing and maintaining commercial manufacturing with third parties;
- acceptance of GOCOVRI by physicians, patients and the healthcare community;
- coverage and adequate reimbursement of GOCOVRI by third-party payers;
- willingness and ability of patients to pay out of pocket for GOCOVRI;
- effectively competing with other approved or used medicines and future compounds in development;
- continued demonstration of an acceptable safety profile of GOCOVRI following approval; and
- obtaining, maintaining, enforcing, and defending intellectual property rights and claims.

If we do not achieve one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to further commercialize GOCOVRI, which would materially harm our business.

GOCOVRI may fail to achieve the degree of market acceptance by physicians, patients, healthcare payers, and others in the medical community we are targeting, which would negatively impact our business.

GOCOVRI may fail to gain sufficient market acceptance by physicians, hospital administrators, patients, third-party payers, and others in the healthcare community. The degree of market acceptance of GOCOVRI will depend on a number of factors, including:

- its efficacy, duration of response, and potential advantages compared to alternative treatments;
- the prevalence and severity of any side effects;

- the acceptability of the price of GOCOVRI relative to other treatments;
- the willingness of physicians to change their current treatment practices;
- its convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the effectiveness of our marketing, promotion, selling, and distribution support; and
- the availability of third-party payer coverage and adequate reimbursement.

The failure of GOCOVRI to achieve market acceptance would negatively impact our business.

If we are unable to recruit and retain experienced commercial personnel, our business will be substantially harmed.

We have limited experience in marketing, selling and distributing pharmaceutical products. With respect to GOCOVRI in particular, it is the first and only drug approved by the U.S. Food and Drug Administration, or FDA, for the treatment of dyskinesia in patients with Parkinson's disease receiving levodopa-based therapy, with or without concomitant dopaminergic medications and we have only been marketing and distributing it for under two years. Therefore, none of the members of our commercial team, including our sales force, has ever promoted GOCOVRI prior to its launch in January 2018, and we are continuing to refine our promotional capabilities as well as our distribution and reimbursement capabilities, all of which are necessary to successfully commercialize GOCOVRI. In addition, we are required to expend significant time and resources to market, sell, and distribute GOCOVRI to neurologists and movement disorder specialists in a credible, persuasive, and compliant manner consistent with applicable laws. Our business could be harmed if we are unable to recruit, employ, appropriately train, and retain experienced sales professionals to successfully execute our commercialization strategies and tactics, including educating potential customers about the benefits and risks of GOCOVRI and its proper administration. Moreover, there is no guarantee that the strategies, tactics and marketing messages, or the distribution and reimbursement capabilities that we have established will be successful. Specifically, for distribution of GOCOVRI, we are heavily dependent on third-party logistics, pharmacy and distribution partners. If they are unable to perform effectively or if they do not provide efficient distribution of the medicine to patients, our business will suffer.

Failure to successfully obtain coverage and reimbursement for GOCOVRI in the United States, or the availability of coverage and reimbursement only at limited levels, would diminish our ability to generate product revenue.

Our ability to commercialize GOCOVRI successfully in the United States will depend in part on the extent to which coverage and reimbursement for GOCOVRI becomes available from third-party payers, including government health administration authorities, such as those that administer the Medicare and Medicaid programs, and private health insurers. Patients who are prescribed medicine for the treatment of their conditions generally rely on third-party payers to reimburse all or part of the costs associated with their prescription drugs. Coverage and reimbursement discussions are currently ongoing with payers. Coverage and adequate reimbursement from both governmental healthcare programs, such as Medicare and Medicaid, and commercial payers are critical to GOCOVRI's commercial success. Coverage and reimbursement decisions may depend upon clinical and economic standards that disfavor newer drug products when more established or cheaper therapeutic alternatives are already available or subsequently become available. For example, even though other versions of amantadine are not approved for dyskinesia, some payers have asked physicians if patients have had prior experience with such versions or required that physicians actually prescribe such versions prior to providing reimbursement for GOCOVRI.

Coverage and reimbursement may not be available for GOCOVRI. Even if we obtain coverage for GOCOVRI, the resulting reimbursement rates might not be adequate or may require co-payments or co-insurance payments that patients find unacceptably high. Coverage and reimbursement determinations by third-party payers will impact the demand for GOCOVRI and therefore our revenues. Patients may choose not to use GOCOVRI if coverage is not provided or reimbursement is inadequate to cover a significant portion of its cost. If coverage and reimbursement are not available or are available only to limited levels, we may not be able to successfully commercialize GOCOVRI.

As with any approved medicine for a particular indication, there may be significant delays in obtaining final coverage and reimbursement decisions for GOCOVRI or changes in coverage and reimbursement decisions over time.

Third-party payers are increasingly challenging the price and reviewing the cost-effectiveness of medical drug products, in addition to questioning their safety and efficacy.

Net prices for products may be reduced by mandatory discounts or rebates required by government healthcare programs, such as the federal 340B Drug Pricing Program, or by private third-party payers and could also be adversely affected by any future relaxation of laws that currently restrict imports of products from countries where they may be sold at lower prices than in the United States. In the United States, private third-party payers often rely upon Medicare coverage and reimbursement policies and payment limitations in setting their own coverage and reimbursement policies.

Our inability to promptly obtain coverage and adequate reimbursement rates from both government-funded and private third-party payers for GOCOVRI could have a material adverse effect on our operating results, and our overall financial condition.

We face substantial competition in the commercialization of GOCOVRI.

The commercialization of pharmaceutical products is highly competitive, and we face substantial competition with respect to GOCOVRI. For example, although GOCOVRI is the first and only FDA-approved medicine for the treatment of dyskinesia in patients with Parkinson's disease receiving levodopa-based therapy, with or without concomitant dopaminergic medications, we face competition from various branded and generic drugs approved for the treatment of Parkinson's disease that physicians either have historically used or may use in attempt to manage dyskinesia. If approved, we will also face competition from investigational drugs in late stage development for the treatment of Parkinson's disease, and may also face competition from drugs currently in development for dyskinesia in Parkinson's disease or for Parkinson's disease from a number of pharmaceutical companies.

Many of our competitors, including a number of large pharmaceutical companies that compete directly with us, have significantly greater financial resources commercializing approved products than we do. Also, many of our competitors are large pharmaceutical companies that will have a greater ability to reduce prices for their competing drugs in an effort to gain market share and undermine the value proposition that we might otherwise be able to offer to payers.

If manufacturers obtain approval for generic versions of GOCOVRI, or of products with which we compete, our business may suffer.

Under the U.S. Food, Drug and Cosmetic Act, or FDCA, the FDA can approve an Abbreviated New Drug Application, or ANDA, for a generic version of a branded drug without the ANDA applicant undertaking the clinical testing necessary to obtain approval to market a new drug. Generally, in place of such clinical studies, an ANDA applicant usually needs only to submit data demonstrating that its product has the same active ingredient(s), strength, dosage form, route of administration and that it is bioequivalent to the branded product. We have received a notice of an ANDA submitted to the FDA requesting permission to manufacture and market a generic version of GOCOVRI, and we are currently in litigation with that ANDA filer.

The FDCA requires that an applicant for approval of a generic form of a branded drug certify either that its generic product does not infringe any of the patents listed by the owner of the branded drug in the Orange Book or that those patents are not enforceable. This process is known as a paragraph IV challenge. Upon notice of a paragraph IV challenge, a patent owner has 45 days to bring a patent infringement suit in federal district court against the company seeking ANDA approval of a product covered by one of the owner's patents. If this type of suit is commenced, the FDCA provides a 30-month stay on the FDA's approval of the competitor's application. If the litigation is resolved in favor of the ANDA applicant or the challenged patent expires during the 30-month stay period, the stay is lifted and the FDA may thereafter approve the application based on the standards for approval of ANDAs. Once an ANDA is approved by the FDA, the generic manufacturer may market and sell the generic form of the branded drug in competition with the branded medicine.

The ANDA process can result in generic competition if the patents at issue are not upheld or if the generic competitor is found not to infringe the owner's patents. If this were to occur with respect to GOCOVRI or products with which it competes, our business would be materially harmed. Furthermore, even if ultimately successful, ANDA litigation can take several years and is generally time-consuming and costly. Such litigation has been commenced by us to enforce certain patents related to GOCOVRI. See *Litigation and Other Legal Proceedings* in "Note 8 – Commitments and Contingencies" in the accompanying "Notes to Condensed Consolidated Financial Statements (unaudited)" for more information.

Unforeseen safety issues could emerge with GOCOVRI that could require us to change the prescribing information to add warnings, limit use of the product, and/or result in litigation. Any of these events could have a negative impact on our business.

Discovery of unforeseen safety problems or increased focus on a known problem could impact our ability to commercialize GOCOVRI and could result in restrictions on its permissible uses, including withdrawal of the medicine from the market.

If we or others identify additional undesirable side effects caused by GOCOVRI after approval:

- regulatory authorities may require the addition of labeling statements, specific warnings, contraindications, or field alerts to physicians and pharmacies;
- regulatory authorities may withdraw their approval of the product and require us to take our approved drugs off the market;
- we may be required to change the way the product is administered, conduct additional clinical trials, change the labeling of the product, or implement a Risk Evaluation and Mitigation Strategy, or REMS;
- we may have limitations on how we promote our drugs;
- third-party payers may limit coverage or reimbursement for GOCOVRI;
- sales of GOCOVRI may decrease significantly;
- we may be subject to litigation or product liability claims; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of GOCOVRI and could substantially increase our commercialization costs and expenses, which in turn could delay or prevent us from generating significant revenue from its sale.

Further, GOCOVRI may also be affected by the safety and tolerability of its parent drug or drugs with similar mechanisms of action. Although amantadine, which is a component of GOCOVRI, has been used in patients for many years, newly observed toxicities or worsening of known toxicities in preclinical studies or in subjects in clinical studies receiving amantadine, or reconsideration of known toxicities of compounds in the setting of new indications, could result in increased regulatory scrutiny of our products and product candidates.

In addition, problems with approved products marketed by third parties that utilize the same therapeutic target or that belong to the same therapeutic class as amantadine could adversely affect the commercialization of GOCOVRI.

If a safety issue emerges post-approval, we may become subject to costly product liability litigation by our customers, their patients or payers. Product liability claims could divert management's attention from our core business, be expensive to defend, and result in sizable damage awards against us that may not be covered by insurance. If we cannot successfully defend ourselves against claims that GOCOVRI caused injuries, we will incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any product candidates or products that we may develop;
- the inability to commercialize any products that we may develop;
- injury to our reputation and significant negative media attention;
- withdrawal of patients from clinical studies or cancellation of studies;
- significant costs to defend the related litigation;
- substantial monetary awards to patients; and
- loss of revenue.

We currently hold \$15.0 million in product liability insurance coverage, which may not be adequate to cover all liabilities that we may incur. Insurance coverage is increasingly expensive. We may not be able to obtain insurance

coverage at a reasonable cost or in amounts adequate to satisfy any liability or associated costs that may arise in the future. These events could harm our business and results of operations and cause our stock price to decline.

The marketing and promotion of GOCOVRI must be limited to the approved indication for use and the information and clinical data included in or consistent with the approved prescribing information. If we want to expand the marketing and promotion of GOCOVRI beyond the approved indication or with information not consistent with the approved prescribing information, we will need to obtain additional regulatory approvals, which may not be granted.

With the August 2017 approval of GOCOVRI for the treatment of dyskinesia in patients with Parkinson's disease receiving levodopa-based therapy, with or without concomitant dopaminergic medications, we currently are permitted to market or promote it, consistent with the information and data in its approved prescribing information, only for the treatment of dyskinesia and not for other uses. We are developing GOCOVRI for at least one additional indication, treatment of walking impairment in patients with multiple sclerosis, and potentially others. To market and promote GOCOVRI for these additional indications, we will need to conduct additional clinical trials to obtain regulatory approval for such uses that will likely be time-consuming and expensive. Additionally, our current marketing and promotional efforts will be limited to the use of information included in or deemed to be consistent with the approved prescribing information for GOCOVRI for the treatment of dyskinesia, including the clinical data and results reflected in the prescribing information. To use information not consistent with the approved prescribing information will require additional regulatory approvals.

If we are found to have improperly promoted unapproved uses of GOCOVRI, or if physicians misuse it, we may be subject to restrictions on the sale or marketing of GOCOVRI and significant fines, penalties, sanctions and product liability claims, and our image and reputation within the industry and marketplace could be harmed.

The FDA and other regulatory agencies, including regulatory authorities outside the United States, strictly regulate the marketing and promotional claims that are made about drug products, such as GOCOVRI. In particular, promotion of a product must be consistent with its labeling approved by the FDA or by regulatory agencies in other countries. For example, in the case of GOCOVRI, for the treatment of dyskinesia in patients with Parkinson's disease receiving levodopa-based therapy, with or without concomitant dopaminergic medications, we cannot prevent physicians from prescribing GOCOVRI for indications or uses that are inconsistent with the approved label. If, however, we are found to have promoted such unapproved uses prior to the FDA's approval for an additional indication, we may, among other consequences, receive untitled or warning letters and become subject to significant liability, which would materially harm our business. Both the U.S. federal government and foreign regulatory authorities have levied significant civil and criminal fines against companies and individuals for alleged improper promotion and have entered into settlement agreements with pharmaceutical companies to limit inappropriate promotional activities. If we become the target of such an investigation or prosecution based on our marketing and promotional practices, we could face similar sanctions, which would materially harm our business. In addition, management's attention could be diverted from our business operations, significant legal expenses could be incurred, and our reputation could be damaged.

Physicians prescribing of our products for unapproved uses may also subject us to product liability claims, to the extent such uses lead to adverse events, side effects, or injury. Product liability claims could divert management's attention from our core business, be expensive to defend, and result in sizable damage awards against us that may not be covered by insurance. Furthermore, the use of our products for indications other than those approved by the FDA or regulatory authorities outside the United States may not effectively treat such conditions, which could harm our reputation in the marketplace among physicians and patients. Any of these events could harm our business and results of operations and cause our stock price to decline.

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

We participate in the Medicaid Drug Rebate Program, as administered by the Centers for Medicare and Medicaid Services, or CMS, and other federal and state government pricing programs in the United States, and we may participate in additional government pricing programs in the future. These programs generally require us to pay rebates or otherwise provide discounts to government payers in connection with drugs that are dispensed to beneficiaries/recipients of these programs. In some cases, such as with the Medicaid Drug Rebate Program, the rebates are based on pricing that we report on a monthly and quarterly basis to the government agencies that administer the programs. Pricing

requirements and rebate/discount calculations are complex, vary among products and programs, and are often subject to interpretation by governmental or regulatory agencies and the courts. The requirements of these programs, including, by way of example, their respective terms and scope, change frequently. Responding to current and future changes may increase our costs, and the complexity of compliance will be time consuming. Invoicing for rebates is provided in arrears, and there is frequently a time lag of up to several months between the sales to which rebate notices relate and our receipt of those notices, which further complicates our ability to accurately estimate and accrue for rebates related to the Medicaid program as implemented by individual states. Thus, there can be no assurance that we will be able to identify all factors that may cause our discount and rebate payment obligations to vary from period to period, and our actual results may differ significantly from our estimated allowances for discounts and rebates. Changes in estimates and assumptions may have a material adverse effect on our business, results of operations and financial condition.

In addition, the Office of Inspector General of the Department of Health and Human Services and other Congressional enforcement and administrative bodies have increased their focus on pricing requirements for products, including, but not limited to the methodologies used by manufacturers to calculate average manufacturer price, or AMP, and best price, or BP, for compliance with reporting requirements under the Medicaid Drug Rebate Program. We are liable for errors associated with our submission of pricing data and for any overcharging of government payers. For example, failure to submit monthly/quarterly AMP and BP data on a timely basis could result in significant civil monetary penalties for each day the submission is late beyond the due date. Failure to make necessary disclosures and/or to identify overpayments could result in allegations against us under the Federal False Claims Act and other laws and regulations. Any required refunds to the U.S. government or responding to a government investigation or enforcement action would be expensive and time consuming and could have a material adverse effect on our business, results of operations and financial condition. In addition, in the event that CMS were to terminate our rebate agreement, no federal payments would be available under Medicaid or Medicare for our covered outpatient drugs.

GOCOVRI is complex to manufacture, and manufacturing disruptions may occur that could cause us to experience disruptions in the supply of GOCOVRI.

GOCOVRI is a high-dose, extended release amantadine taken once-daily at bedtime that delivers high levels of amantadine in the morning upon waking and throughout the day. The manufacture of extended release versions of drugs is more complex than the manufacture of the immediate release versions of drugs. Notwithstanding the fact that we have validated our process, manufacturing disruptions may occur. Such problems may prevent the production of lots that meet the specifications required for sale of the product and may be difficult and expensive to resolve. If any such issues were to arise with respect to GOCOVRI, our business, financial results, or stock price could be adversely affected.

If we are unable to maintain orphan exclusivity for GOCOVRI for the treatment of dyskinesia in patients with Parkinson's disease receiving levodopa-based therapy, with or without concomitant dopaminergic medications, our business may be substantially harmed.

Under the Orphan Drug Act, the FDA may designate a drug product as an orphan drug if it is a drug or biologic intended to treat a rare disease or condition. Generally, if a drug product with an orphan drug designation receives the first marketing approval for the indication for which it has such designation, the drug product is entitled to a period of marketing exclusivity, which may preclude the FDA from approving another marketing application for the same drug product for the same therapeutic indication. The applicable period of exclusivity is seven years in the United States. GOCOVRI received orphan designation for the treatment of levodopa-induced dyskinesia in 2015. When it was approved for the treatment of dyskinesia in patients with Parkinson's disease receiving levodopa-based therapy, with or without concomitant dopaminergic medications, GOCOVRI earned seven years of orphan drug exclusivity.

Although we have obtained marketing approval for GOCOVRI for the treatment of dyskinesia in patients with Parkinson's disease receiving levodopa-based therapy, the FDA could still subsequently approve the same drug with the same active moiety for the same condition if the FDA concludes that the later drug is safer or more effective or makes a major contribution to patient care, or if we are unable to assure that sufficient quantities of medicine are available to meet patient needs. If we are unable to maintain orphan drug exclusivity for GOCOVRI for the treatment of dyskinesia, our business would be substantially harmed.

Risks related to our product candidates in clinical development

Our success depends on the timely clinical development, approval and successful commercialization of our product candidates, including GOCOVRI for indications in addition to the treatment of dyskinesia in patients with Parkinson's disease receiving levodopa-based therapy, with or without concomitant dopaminergic medications. If we are unable to develop any of these with our product candidates or if we experience significant delays in doing so, our business will be materially harmed.

We have invested a significant portion of our efforts and financial resources into the development and potential commercialization of our product candidates, including ADS-5102 for the treatment of walking impairment in patients with multiple sclerosis, and potentially other indications. Our ability to generate product revenue will depend heavily on the successful development, regulatory approval, and commercialization of our product candidates. The success of our product candidates will depend on numerous factors, including:

- successfully completing the development program for our product candidates in a timely manner;
- receiving marketing approval for our product candidates from the FDA in a timely manner;
- successfully establishing and maintaining commercial manufacturing with third parties;
- commercializing our product candidates, if approved, including marketing, sales, and distribution of the product independently or in partnership with another company;
- acceptance by the medical community and patients of the approved product;
- coverage and adequate reimbursement of our product candidates by third-party payers;
- willingness and ability of patients to pay out of pocket for our product candidates;
- effectively competing with other approved or used medicines and future compounds in development;
- continued demonstration of an acceptable safety profile of the approved products following approval; and
- obtaining, maintaining, enforcing, and defending intellectual property rights and claims.

If we do not achieve one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully commercialize our product candidates, which would materially harm our business.

We will face risks in the development of ADS-5102 (GOCOVRI) for additional indications and other product candidates.

There are risks associated with pursuing clinical trials in other indications for ADS-5102 (GOCOVRI) and other product candidates, as we may experience numerous unforeseen events during, or as a result of clinical studies that could harm our ability to commercialize such products and candidates or to receive regulatory approval, including that:

- clinical studies may produce negative or inconclusive results or raise significant safety concerns, and we may decide, or regulators may require us, to conduct additional clinical studies or abandon product development programs;
- even if clinical studies demonstrate statistically significant efficacy and acceptable safety, the FDA or similar authorities outside the United States may not consider the results of our studies to be sufficient for approval;
- our clinical sites and clinical investigators may fail to comply with, or inconsistently apply, the trial protocols, regulatory requirements including Good Clinical Practices, contractual obligations, and the rating assessments;
- our third-party vendors, including our Contract Research Organizations, or CROs, and contract manufacturing organizations, or CMOs, may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;
- we might have to suspend or terminate clinical studies for various reasons, including a finding that our product candidates have unanticipated serious side effects or other unexpected characteristics or that the patients are being exposed to unacceptable health risks;

- regulators or institutional review boards may require that we or our investigators suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements;
- the supply or quality of ADS-5102 or other materials necessary to conduct clinical studies may be insufficient or inadequate; and
- our new product discovery or research program may not be successful or warrant clinical development.

With respect to the development of additional indications for GOCOVRI, although the safety profile of amantadine, the active pharmaceutical ingredient in GOCOVRI, is already characterized in the approved label for amantadine (i.e., Symmetrel®) and in the GOCOVRI clinical trial data in the dyskinesia population, there can be no assurance that our clinical development program for ADS-5102 (GOCOVRI) for multiple sclerosis walking impairment or future studies in other indications will not reveal additional safety or tolerability issues that could lead to changes in the GOCOVRI prescribing information. In such an event, our ability to commercialize GOCOVRI for dyskinesia and/or expand our business could be compromised.

If we are forced to delay or abandon development of our product candidates, our business, results of operations, and financial condition will be materially and adversely harmed.

We may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.

Because we have limited financial and managerial resources, we have chosen to focus on research programs and product candidates for specific indications. As a result, we may forego or delay pursuit of opportunities with our product candidates or other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our investment in current and future research and development programs and product candidates for specific indications may not yield any commercially viable products for us or future partners.

If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing, or other royalty arrangements in cases in which it would have been advantageous for us to retain sole development and commercialization rights.

Failure to gain approval of or successfully commercialize our product candidates in the United States could substantially harm our business.

Our product candidates will face the same or similar challenges in obtaining FDA approval and in commercialization and manufacturing as GOCOVRI, as outlined above, including but not limited to market acceptance by physicians and patients, coverage and reimbursement by third party payers, and manufacturing issues.

Failure to obtain regulatory approvals in foreign jurisdictions would prevent us from marketing our products internationally.

We may decide to seek marketing authorizations on our own or with a partner to commercialize GOCOVRI and other future product candidates outside of the United States. To market our future products in the European Union, or EU, and many other foreign jurisdictions, we must obtain separate regulatory approvals. Specifically, in the EU, medicinal products can only be commercialized after obtaining a Marketing Authorization, or MA.

Before granting an MA, the European Medicines Agency, or EMA, or the competent authorities of the member states of the EU make an assessment of the risk-benefit balance of the product on the basis of a Common Technical Document including, among other information, scientific criteria concerning its quality, safety, and efficacy.

Similar to the United States, both MA holders and manufacturers of medicinal products are subject to comprehensive regulatory oversight by the EMA and the competent authorities of the individual EU member states both before and after grant of the manufacturing and Marketing Authorizations. This includes control of compliance with current good manufacturing practices, or cGMP, rules, which govern quality control of the manufacturing process and require documentation policies and procedures. We and our third-party manufacturers are required to ensure that all of our processes, methods, and equipment are compliant with cGMP. Failure by us or by any of our third-party partners, including suppliers, manufacturers, and distributors, to comply with EU laws and the related national laws of individual EU member states governing the conduct of clinical trials, manufacturing approval, marketing authorization of medicinal

products, both before and after grant of marketing authorization, and marketing of such products following grant of authorization may result in administrative, civil, or criminal penalties. These penalties could include delays in or refusal to authorize the conduct of clinical trials or to grant Marketing Authorization, product withdrawals and recalls, product seizures, suspension, or variation of the marketing authorization, total or partial suspension of production, distribution, manufacturing, or clinical trials, operating restrictions, injunctions, suspension of licenses, fines, and criminal penalties.

We have had limited interactions with foreign regulatory authorities. The approval procedures vary among countries and can involve additional clinical testing, and the time required to obtain approval may differ from and be longer than that required to obtain FDA approval. Clinical studies conducted in one country may not be accepted by regulatory authorities in other countries. Approval by the FDA does not ensure approval by regulatory authorities in other countries, and approval by one or more foreign regulatory authorities does not ensure approval by regulatory authorities in other foreign countries or by the FDA. However, a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory process in others. The foreign regulatory approval process may include all of the risks associated with obtaining FDA approval as well as additional, different risks.

There is no assurance that we will be able to obtain marketing authorizations in foreign countries on a timely basis, if at all. We may not be able to file for foreign regulatory approvals, and even if we file we may not receive necessary approvals to commercialize our products in any market. If we are unable to obtain non-U.S. regulatory approval to market our product candidates in other countries, we or our potential partners may not be able to achieve the financial results we project and our stock price could decline.

Risks related to our reliance on third parties

We rely on third-party contract manufacturing organizations to manufacture, serialize and supply GOCOVRI and our product candidates. If one of our suppliers or manufacturers fails to perform adequately or fulfill our needs, we may be required to incur significant costs and devote significant efforts to find new suppliers or manufacturers and qualify them. We may also face delays in the development, commercialization, and supply of GOCOVRI and our product candidates.

We do not own facilities for clinical and commercial manufacturing of GOCOVRI or our product candidates, and we rely upon third-party contract manufacturing organizations to manufacture, serialize and supply drug product for our clinical studies and to meet commercial demand. The manufacture of pharmaceutical products in compliance with the FDA's cGMP requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. Manufacturers of pharmaceutical products often encounter difficulties in production, including difficulties with production costs and yields, quality control, including stability of the product candidate and quality assurance testing, shortages of qualified personnel, as well as compliance with strictly enforced cGMP requirements, other federal and state regulatory requirements, and foreign regulations. If our manufacturers were to encounter any of these difficulties or otherwise fail to comply with their obligations to us or under applicable regulations, our commercial supply of GOCOVRI or product candidates in our clinical trials could be jeopardized. Any delay or interruption in the supply of clinical study materials or commercial product could cause delays in our clinical programs, harm our ability to gain approval from regulatory authorities, and potentially disrupt patient access to our approved products. These events would substantially harm our business, reputation and stock price.

All third-party manufacturers of our products, product candidates and ingredients thereof must comply with cGMP requirements enforced by the FDA through its facilities inspection program. These requirements include, among other things, quality control, quality assurance, and the maintenance of records and documentation. Manufacturers of our products and product candidates may be unable to comply with these cGMP requirements and with other FDA, state and foreign regulatory requirements. The FDA or similar foreign regulatory agencies may also implement new standards at any time, or change their interpretation and enforcement of existing standards for manufacture, packaging, or testing of products. We have little control over our manufacturers' compliance with these regulations and standards. A failure to comply with these requirements may result in fines and civil penalties, suspension of production, suspension or delay in product approval, product seizure or recall, or withdrawal of product approval. If the safety of any product supplied is compromised due to our manufacturers' failure to adhere to applicable laws or for other reasons, we may not be able to obtain regulatory approval for or successfully commercialize our products or product candidates and we may be held liable for any injuries sustained as a result. Any of these factors could cause a delay of clinical studies, regulatory

submissions, approvals, commercialization or supply of our products or product candidates, entail higher costs, impair our reputation, and potentially disrupt patient access or our approved products.

We rely on a single source third-party contract manufacturing organization for the manufacture and supply of our drug substances for GOCOVRI and our other product candidates.

Although we have supply agreements with two drug substance suppliers, only one is currently manufacturing at commercial scales required for GOCOVRI. In addition, we also currently rely on a single drug product manufacturer for GOCOVRI and our other product candidates. We continue to seek additional long-term supply agreements with suppliers and supplier qualifications. A failure of our single source manufacturer or drug substance supplier or our failure to qualify at least one other manufacturer organization on a timely basis and validate the manufacturing process employed at that manufacturer or supplier could delay or harm commercialization of GOCOVRI or our product candidates. Although we believe alternative sources of supply exist, the number of third-party suppliers with the necessary manufacturing and regulatory expertise and facilities is limited, and it could be expensive and take a significant amount of time to arrange and negotiate acceptable long-term contracts and obtain regulatory approvals and qualifications, which would adversely affect our business. New suppliers of any product candidate would be required to be qualified under applicable regulatory requirements, including demonstration of bioequivalence of the product made at the new supplier, and would need to have sufficient rights under applicable intellectual property laws to the method of manufacturing the product candidate. Obtaining the necessary FDA approvals or other qualifications under applicable regulatory requirements and ensuring non-infringement of third-party intellectual property rights could result in a significant interruption of supply and could require the new manufacturer to bear significant additional costs, which may be passed on to us. Qualifying and negotiating long-term contracts with manufacturers and providers of packaging services is a lengthy process. If at any time, one or more of our qualified contract manufacturing organizations were not able to manufacture our drug substance or drug product or provide the requisite services, our business and financial condition would be materially adversely affected.

We rely on third parties to conduct our clinical trials, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of these trials.

We do not independently conduct clinical studies of our product candidates. Instead, we rely on third parties, such as CROs, clinical data management organizations, medical institutions, and clinical investigators to perform this function. Our reliance on these third parties for clinical development activities reduces our control over these activities, but does not relieve us of our responsibilities. For example, the FDA requires us to comply with standards, commonly referred to as Good Clinical Practice, for conducting, recording, and reporting the results of clinical studies to assure that data and reported results are credible and accurate and that the rights, integrity, and confidentiality of patients in clinical studies are protected, even though we are not in control of these processes. These third parties may also have relationships with other entities, some of which may be our competitors. If these third parties do not successfully carry out their contractual duties, meet expected deadlines, or conduct our clinical studies in accordance with regulatory requirements or our stated protocols, we will not be able to obtain, or may be delayed in obtaining, regulatory approvals for our product candidates and will not be able to, or may be delayed in our efforts to, successfully commercialize our product candidates.

We also rely on other third parties to store and distribute supplies for our clinical studies. Any performance failure on the part of our existing or future distributors could delay clinical development or regulatory approval of our product candidates or commercialization of our products, producing additional losses and depriving us of potential product revenue.

In our existing or any future potential collaborations or partnerships, we will likely not be able to control all aspects of the development and commercialization of our products or product candidates. This lack of control could subject us to additional risks that could harm our business.

Collaborations or license agreements involving our current or future products or product candidates are subject to numerous risks, which may include that:

- partners have significant discretion in determining the efforts and resources that they will apply to collaborations;
- partners may not pursue development and commercialization of our product candidates or may elect not to continue or renew development or commercialization programs based on clinical study results, changes in

their strategic focus due to the acquisition of competitive products, availability of funding, or other external factors, such as a business combination that diverts resources or creates competing priorities;

- partners may delay clinical studies, provide insufficient funding for a clinical study program, stop a clinical study, abandon a product candidate, repeat or conduct new clinical studies, or require a new formulation of a product candidate for clinical testing;
- partners could independently develop, or develop with third parties, products that compete directly or indirectly with our products or product candidates;
- a partner with marketing, manufacturing, and distribution rights to one or more products may not commit sufficient resources to or otherwise not perform satisfactorily in carrying out these activities;
- we could grant exclusive rights to our partners that would prevent us from collaborating with others;
- partners may not properly maintain or defend our intellectual property rights or may use our intellectual property or proprietary information in a way that gives rise to actual or threatened litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential liability;
- partners may not aggressively or adequately pursue litigation against ANDA filers or may settle such litigation on unfavorable terms, as they may have different economic interests than ours, and such decisions could negatively impact any royalties we may receive under our license agreements;
- disputes may arise between us and a partner that causes the delay or termination of the research, development, or commercialization of our current or future products or that results in costly litigation or arbitration that diverts management attention and resources;
- agreements may be terminated, sometimes at-will, without penalty, and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable current or future products;
- partners may own or co-own intellectual property covering our products that results from our collaborating with them, and in such cases, we would not have the exclusive right to commercialize such intellectual property; and
- a partner's sales and marketing activities or other operations may not be in compliance with applicable laws resulting in civil or criminal proceedings.

Risks related to government regulation

Changes in healthcare law and implementing regulations, including government restrictions on pricing and reimbursement, as well as healthcare policy and other healthcare payer cost-containment initiatives and current societal pressures regarding pharmaceutical product pricing, may negatively impact our ability to generate revenues from or could limit or prevent our product candidates' commercial success.

In the United States, there have been and we expect there will continue to be a number of legislative and regulatory changes to the healthcare system that could affect our future revenue and profitability and the future revenue and profitability of our potential customers. Federal and state lawmakers regularly propose and, at times, enact legislation that would result in significant changes to the healthcare system, some of which are intended to contain or reduce the costs of medical products and services. For example, in March 2010, the Patient Protection and Affordable Care Act ("PPACA") was passed, which has substantially changed how healthcare is financed by both governmental and private insurers, and has significantly impacted the U.S. pharmaceutical industry. Details of changes under the PPACA are discussed in the business heading "Other healthcare regulations" in Part I, Item 1, of our 2018 Annual Report on Form 10-K.

Some of the provisions of the PPACA have yet to be fully implemented, and there have been legal and political challenges to certain aspects of the PPACA. Since January 2017, President Trump has signed two executive orders and other directives designed to delay, circumvent, or loosen certain requirements mandated by the PPACA. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part of the PPACA. While Congress

has not passed repeal legislation, two bills affecting the implementation of certain taxes under the PPACA have been signed into law. The Tax Cuts and Jobs Act of 2017 includes a provision that was repealed, effective January 1, 2019, the tax-based shared responsibility payment imposed by the PPACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the “individual mandate”. Additionally, on January 23, 2018, President Trump signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain PPACA-mandated fees, including the so-called “Cadillac” tax on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share, and the medical device excise tax on non-exempt medical devices. Further, the Bipartisan Budget Act of 2018, or the BBA, among other things, amended the PPACA, effective January 1, 2019, to increase the point-of-sale discount that is owed by pharmaceutical manufacturers who participate in Medicare Part D and to close the coverage gap in most Medicare drug plans. Moreover, in December 2018, CMS published another final rule permitting further collections and payments to and from certain PPACA qualified health plans and health insurance issuers under the PPACA risk adjustment program in response to the outcome of federal district court litigation regarding the method CMS uses to determine this risk adjustment. On December 14, 2018, a Texas U.S. District Court Judge ruled that the PPACA is unconstitutional in its entirety because the “individual mandate” was repealed by Congress as part of the Tax Act Cuts and Jobs Act of 2017. While the Texas U.S. District Court Judge, as well as the Trump Administration and CMS, have stated that the ruling will have no immediate effect pending appeal of the decision, it is unclear how this decision, subsequent appeals, and other efforts to repeal and replace the PPACA will impact the PPACA.

Other legislative changes have been proposed and adopted since the PPACA was enacted. These changes include aggregate reductions to Medicare payments to providers of up to 2% per fiscal year pursuant to the Budget Control Act of 2011, which began in 2013 and will remain in effect through 2027 unless additional Congressional action is taken. The American Taxpayer Relief Act of 2012, among other things, further reduced Medicare payments to several providers, including hospitals and cancer treatment centers, increased the statute of limitations period for the government to recover overpayments to providers from three to five years. Additional changes that may affect our business include the expansion of new programs such as Medicare payment for performance initiatives for physicians under the Medicare Access and CHIP Reauthorization Act of 2015, or MACRA, which will be fully operational in 2019. At this time it is unclear how the introduction of the Medicare quality payment program will impact overall physician reimbursement.

In addition, there have also been proposals to impose federal rebates on Medicare Part D drugs, requiring federally-mandated rebates on all drugs dispensed to Medicare Part D enrollees or on only those drugs dispensed to certain groups of lower income beneficiaries. If any of these proposals are adopted, they could result in our owing additional rebates, which could have a negative impact on revenues from sales of our products.

Also, there has been heightened governmental scrutiny over pharmaceutical pricing practices in light of the rising cost of prescription drugs and biologics. Such scrutiny has resulted in several recent Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for products. At the federal level, the Trump Administration’s budget proposal for fiscal year 2019 contains further drug price control measures that could be enacted during the 2019 budget process or in other future legislation, including, for example, measures to permit Medicare Part D plans to negotiate the price of certain drugs under Medicare Part B, to allow some states to negotiate drug prices under Medicaid, and to eliminate cost sharing for generic drugs for low-income patients. Additionally, the Trump Administration released a “Blueprint” to lower drug prices and reduce out of pocket costs of drugs that contains additional proposals to increase manufacturer competition, increase the negotiating power of certain federal healthcare programs, incentivize manufacturers to lower the list price of their products and reduce the out of pocket costs of drug products paid by consumers. HHS has begun soliciting feedback on some of these measures and, at the same time, has implemented others under its existing authority. Further, Congress and the Trump Administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs. At the state level, legislatures have become increasingly active in passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, have been designed to encourage importation from other countries and bulk purchasing.

We expect that the PPACA, as currently enacted or as it may be amended in the future, and other healthcare reform measures that may be adopted in the future, could have a material adverse effect on our industry generally and on our ability to maintain or increase sales of our existing products.

The continuing efforts of the government, insurance companies, managed care organizations, other payers of healthcare services, and patient and political groups to contain or reduce costs of healthcare may, among other things, adversely affect:

- our ability to set a price we believe is fair for our products;
- the reputation of our company;
- our ability to generate revenue and achieve or maintain profitability; and
- the availability of capital.

Our ability to commercialize our products successfully, and to attract commercialization partners for our products, will depend in significant part on the availability of adequate financial coverage and reimbursement from third-party payers, including, in the United States, governmental payers such as the Medicare and Medicaid programs, managed care organizations and private health insurers. Details of these considerations are discussed in the business heading “Other healthcare regulations” in Part I, Item 1, of our 2018 Annual Report on Form 10-K.

We are subject to ongoing regulatory obligations and regulatory review, which may result in significant additional expense and subject us to penalties if we fail to comply with applicable regulatory requirements.

The manufacturing, marketing, and further development of GOCOVRI are subject to continual review by the FDA and/or analogous non-U.S. regulatory authorities. Any regulatory approval that we or our collaboration partners receive for our product candidates will also be subject to limitations on the indicated uses for which the product may be marketed, and may be subject to requirements for potentially costly post-marketing follow-up studies to monitor the safety and efficacy of the product. In addition, if the FDA and/or analogous non-U.S. regulatory authorities approve any of our product candidates, we will be subject to extensive and ongoing regulatory requirements with regard to the labeling, packaging, adverse event reporting, storage, distribution, advertising, promotion, tracking, recordkeeping, and periodic reporting for our products. Further, we and our contract manufacturers of our drug products are required to comply with cGMP regulations, which include requirements related to quality control and quality assurance and maintenance of records and documentation. Regulatory authorities must approve manufacturing facilities before they can be used to manufacture our drug products, and these facilities are subject to continual review and periodic inspections by the FDA and other regulatory authorities for compliance with cGMP regulations. Certain changes to the manufacturing processes for our product candidates, if approved, would also be subject to pre-approval by regulatory authorities. In addition, if we or a third party discover previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, a regulatory authority may impose restrictions on that product, its manufacturer, or us, including but not limited to requiring withdrawal of the product from the market or suspension of manufacturing. If we, our product candidates or the manufacturing facilities for our product candidates fail to comply with regulatory requirements of the FDA and/or applicable non-U.S. regulatory authorities, we could be subject to administrative or other sanctions, including:

- warning letters or untitled letters;
- civil or criminal penalties and fines;
- injunctions;
- suspension, variation, or withdrawal of regulatory approval;
- suspension of ongoing clinical studies;
- voluntary or mandatory product recalls;
- requirements for dissemination of corrective information or modifications to promotional materials;
- refusal to approve pending applications for marketing approval of new drugs or supplements to approved applications filed by us;
- refusal to permit import or export of our products;

- restrictions on operations, including costly new manufacturing requirements; or
- seizure or detention of our products.

Regulatory requirements and policies may change, and we may need to comply with additional laws and regulations that are enacted. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or in other countries. If we are not able to maintain regulatory compliance, we may not be permitted to market, or continue to market, our future products and our business may suffer.

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

Healthcare providers, physicians, distributors, and third-party payers play a primary role in the distribution, recommendation, and prescription of any pharmaceutical product for which we obtain marketing approval. Our arrangements with third-party payers and customers expose us to broadly applicable federal and state fraud and abuse and other laws and regulations that may constrain the business or financial arrangements through which we market, sell and distribute GOCOVRI and other products for which we may obtain marketing approval. The laws and regulations that may affect our ability to operate include:

- the federal healthcare program Anti-Kickback Statute, which prohibits, among other things, knowingly and willfully offering, paying, soliciting, or receiving any remuneration (including any kickback, bribe or rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order, lease, arrangement or recommendation of, any good, facility, item, or service for which payment may be made, in whole or in part, under federal healthcare programs, such as the Medicare and Medicaid programs. Liability under the Anti-Kickback Statute may be established without a person or entity having actual knowledge of the statute or specific intent to violate it. In addition, the government may assert that a claim including items or services resulting from a violation of the Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal civil False Claims Act;
- the federal civil and criminal false claims laws, including the federal civil False Claims Act and civil monetary penalties laws, which prohibits individuals or entities from, among other things, knowingly presenting, or causing to be presented, false or fraudulent claims for payment of government funds, or knowingly using false records or statements, to obtain payment from the federal government. In recent years, several pharmaceutical and other health care companies have faced enforcement actions under the False Claims Act for, among other things, allegedly submitting false or misleading pricing information to government healthcare programs, providing free product to customers with the expectation that the customers would bill federal programs, product and patient assistance programs, including reimbursement services, and marketing products for off-label or unapproved uses;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which prohibits, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or obtain, by means of false or fraudulent pretenses, representations or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payer (e.g., public or private) and knowingly and willfully falsifying, concealing, or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of, or payment for, healthcare benefits, items, or services relating to healthcare matters;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or HITECH, and their implementing regulations, which impose obligations on HIPAA covered entities and their business associates, including mandatory contractual terms and required implementation of administrative, physical and technical safeguards to maintain the privacy and security of individually identifiable health information;
- the federal Physician Payments Sunshine Act, being implemented as the Open Payments Program, which requires manufacturers of drugs, devices, biologicals, and medical supplies for which payment is available under Medicare, Medicaid, or the Children's Health Insurance Program (with certain exceptions) to report annually to the federal government information related to payments and other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists, and chiropractors) and teaching

hospitals, as well as certain ownership and investment interests held by physicians and their immediate family members; and

- analogous state laws and regulations, such as anti-kickback, and false claims laws, which may be broader in scope and apply to items or services reimbursed by any third-party payer, including commercial insurers. Several states also require pharmaceutical companies to report expenses relating to the marketing and promotion of pharmaceutical products in those states and to report gifts and payments to individual health care providers in those states. Some of these states also prohibit certain marketing-relating activities, including the provision of gifts, meals, or other items to certain health care providers. Some states require reporting with respect to certain drug products. Certain state and localities also require the registration of pharmaceutical sales representatives. In addition, several states require pharmaceutical companies to implement compliance programs or marketing codes.

If our operations are found to be in violation of any of the laws described above or any other governmental regulations that apply to us, we may be subject to penalties, including significant civil, criminal and/or administrative penalties, damages, fines, disgorgement, possible exclusion from participation in Medicare, Medicaid, and other federal healthcare programs, individual imprisonment, additional reporting requirements and oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws, reputational harm, diminished profits and future earnings, and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our financial results. Any action against us for violation of these or other laws, 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. Moreover, achieving and sustaining compliance with applicable federal and state privacy, security, and fraud laws may prove costly.

In addition, in some foreign countries, the proposed pricing for a drug must be approved before it may be lawfully marketed. Moreover, the requirements governing drug pricing and reimbursement vary widely from country to country. For example, in the European Union the main legal instrument at the European Union level governing the pricing and reimbursement of medicinal products is Council Directive 89/105/EEC (the Price Transparency Directive). The aim of the Price Transparency Directive is to ensure the transparency of measures established by European Union countries to control the pricing and reimbursement of medicinal products. It defines a series of procedural requirements designed to verify that national pricing and reimbursement decisions do not create obstacles to the pharmaceutical trade within the European Union's Internal Market. The Price Transparency Directive does not, however, provide any guidance concerning the specific criteria on the basis of which pricing and reimbursement decisions are to be made in individual European Union member states, except as far as is necessary to achieve the level of transparency required by the Price Transparency Directive. The national authorities of the individual European Union member states are free to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices and/or reimbursement of medicinal products for human use. Some individual European Union member states adopt policies according to which a specific price or level of reimbursement is approved for the medicinal product. Other European Union member states adopt a system of reference pricing, basing the price or reimbursement level in their territory either, on the pricing and reimbursement levels in other countries, or on the pricing and reimbursement levels of medicinal products intended for the same therapeutic indication. Furthermore, some European Union member states impose direct or indirect controls on the profitability of the company placing the medicinal product on the market.

Health Technology Assessment, or HTA, of medicinal products is becoming an increasingly common part of the pricing and reimbursement procedures, and most European Union member states now have an HTA system. The HTA process in the European Union member states is governed by the national laws of these countries. HTA is the procedure according to which the assessment of the public health impact, therapeutic impact and the economic and societal impact of the use of a given medicinal product in the national healthcare systems of the individual country is conducted. HTA generally focuses on the clinical efficacy and effectiveness, safety, cost, and cost-effectiveness of individual medicinal products as well as their potential implications for the national healthcare system. Those elements of medicinal products are compared with other treatment options available on the market.

The outcome of HTA may influence the pricing and reimbursement status for specific medicinal products within individual European Union member states. The extent to which pricing and reimbursement decisions are influenced by the HTA of a specific medicinal product vary between the European Union member states.

In 2011, Directive 2011/24/EU was adopted at European Union level. This Directive concerns the application of

patients' rights in cross-border healthcare. The Directive is intended to establish rules for facilitating access to safe and high-quality cross-border healthcare in the European Union. Pursuant to Directive 2011/24/EU, a voluntary network of national authorities or bodies responsible for HTA in the individual EU member states was established. The purpose of the network is to facilitate and support the cooperation between national authorities or bodies and the exchange of information concerning HTAs. This could lead to greater harmonization between European Union member states of the criteria taken into account in the conduct of HTA in pricing and reimbursement decisions.

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

We participate in and have certain price reporting obligations to the Medicaid Drug Rebate program and other governmental pricing programs.

Under the Medicaid Drug Rebate program, a manufacturer is required to pay a rebate to each state Medicaid program for its covered outpatient drugs that are dispensed to Medicaid beneficiaries and paid for by a state Medicaid program as a condition of having federal funds being made available to the states for our drugs under Medicaid and Medicare Part B. Those rebates are based on pricing data reported by the manufacturer on a monthly and quarterly basis to CMS, the federal agency that administers the Medicaid Drug Rebate program. These data include the average manufacturer price and, in the case of innovator products, the best price for each drug which, in general, represents the lowest price available from the manufacturer to any entity in the United States in any pricing structure, calculated to include all sales and associated rebates, discounts and other price concessions.

The PPACA made significant changes to the Medicaid Drug Rebate program, as discussed under the heading "Other healthcare regulations" in Part I, Item 1, of our 2018 Annual Report on Form 10-K. On February 1, 2016, CMS issued final regulations to implement the changes to the Medicaid Drug Rebate program under the PPACA. These regulations became effective on April 1, 2016. The issuance of regulations and coverage expansion by various governmental agencies relating to the Medicaid Drug Rebate program may increase our costs and the complexity of compliance and could have a material adverse effect on our results of operations if we participate in the Medicaid Drug Rebate Program if and when we successfully commercialize any of our product candidates.

Federal law requires that any company that participates in the Medicaid Drug Rebate program also participate in the Public Health Service's 340B drug pricing program in order for federal funds to be available for the manufacturer's drugs under Medicaid and Medicare Part B. The 340B program requires participating manufacturers to agree to charge no more than the 340B "ceiling price" for the manufacturer's covered outpatient drugs to a variety of community health clinics and other entities that receive health services grants from the Public Health Service, as well as hospitals that serve a disproportionate share of low-income patients. The PPACA expanded the list of covered entities to include certain free-standing cancer hospitals, critical access hospitals, rural referral centers and sole community hospitals, but exempts "orphan drugs" from the ceiling price requirements for these covered entities. The 340B ceiling price is calculated using a statutory formula based on the average manufacturer price and rebate amount for the covered outpatient drug as calculated under the Medicaid Drug Rebate program. Changes to the definition of average manufacturer price and the Medicaid rebate amount under the Healthcare Reform Act and CMS's final regulations implementing those changes also could affect the 340B ceiling price calculations for any of our product candidates that we successfully commercialize and could negatively impact our results of operations.

The PPACA obligates the Secretary of the HHS to update the agreement that manufacturers must sign to participate in the 340B program to obligate a manufacturer to offer the 340B price to covered entities if the manufacturer makes the drug available to any other purchaser at any price and to report to the government the ceiling prices for its drugs. The Health Resources and Services Administration, or HRSA, recently initiated the process of updating the agreement with participating manufacturers. The PPACA also obligates the Secretary of the HHS to create regulations and processes to improve the integrity of the 340B program. After implementation delays directed by the Trump Administration, on November 30, 2018, HRSA published its final rule regarding the calculation of 340B ceiling price and imposition of civil monetary penalties on manufacturers for knowingly and intentionally overcharging covered entities, which became effective on January 1, 2019. The issuance of any other final regulations and guidance could affect our obligations under the 340B program in ways we cannot anticipate, if and when we successfully commercialize any of our product candidates and if we participate in the 340B program. In addition, legislation may be introduced that,

if passed, would further expand the 340B program to additional covered entities or would require participating manufacturers to agree to provide 340B discounted pricing on drugs used in an inpatient setting.

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

We will be liable for errors associated with any submission of pricing data. In addition to retroactive rebates and the potential for 340B program refunds, if we are found to have knowingly submitted any false price information to the government, we may be liable for significant civil monetary penalties per item of false information. Our failure to submit the required price data on a timely basis could result in significant civil monetary penalties for each day the information is late beyond the due date. Such failure also could be grounds for CMS to terminate our Medicaid drug rebate agreement, pursuant to which we will participate in the Medicaid program if we join the program if and when we successfully commercialize any of our product candidates. In the event that CMS terminates our rebate agreement, federal payments may not be available under Medicaid or Medicare Part B for any of our product candidates that we successfully commercialize.

CMS and the OIG have pursued manufacturers that were alleged to have failed to report these data to the government in a timely manner. Governmental agencies may also make changes in program interpretations, requirements or conditions of participation, some of which may have implications for amounts previously estimated or paid. We cannot assure you that our submissions, if we participate in the federal programs if and when we successfully commercialize any of our product candidates, will not be found by CMS to be incomplete or incorrect.

In order to be eligible to have any of our product candidates that we successfully commercialize paid for with federal funds under the Medicaid and Medicare Part B programs and purchased by the Department of Veterans Affairs, or VA, Department of Defense, Public Health Service, and Coast Guard, referred to collectively as the Big Four agencies, and certain federal grantees, we are required to participate in the VA Federal Supply Schedule, or FSS, pricing program, established under Section 603 of the Veterans Health Care Act of 1992. Under this program, we are obligated to make any of our product candidates that we successfully commercialize that meet the statutory definition of “covered drug” (biologics and single and innovator multiple source drugs) available for procurement on an FSS contract and charge a price to the Big Four agencies that is no higher than the Federal Ceiling Price, or FCP, which is a price calculated pursuant to a statutory formula. The FCP is derived from a calculated price point called the “non-federal average manufacturer price,” or Non-FAMP, which we will be required to calculate and report to the VA on a quarterly and annual basis. Pursuant to applicable law, knowing provision of false information in connection with a Non-FAMP filing can subject a manufacturer to significant penalties for each item of false information. The FSS contract also contains extensive disclosure and certification requirements.

Under Section 703 of the National Defense Authorization Act for FY 2008, we will be required to pay quarterly rebates on utilization of innovator products that are dispensed through the Tricare network pharmacies to Tricare beneficiaries. The rebates are calculated as the difference between the annual Non-FAMP and FCP. If we overcharge the government in connection with the FSS contract or Tricare Retail Pharmacy Rebate Program, whether due to a misstated FCP or otherwise, we are required to refund the difference to the government. Failure to make necessary disclosures and/or to identify contract overcharges can result in allegations against us under the False Claims Act and other laws and regulations. Unexpected refunds to the government, and any response to government investigation or enforcement action, would be expensive and time-consuming, and could have a material adverse effect on our business, financial condition, results of operations, and growth prospects if we successfully commercialize any of our product candidates.

If we fail to comply with data protection laws and regulations, we could be subject to government enforcement actions (which could include civil or criminal penalties), private litigation, increased compliance costs and/or adverse publicity, which could negatively affect our operating results and business.

We are subject to data protection laws and regulations (i.e., laws and regulations that address privacy and data security). In the United States, numerous federal and state laws and regulations, including state data breach notification laws, state health information privacy laws, and federal and state consumer protection laws (e.g., Section 5 of the Federal Trade Commission Act), govern the collection, use, disclosure, and protection of health-related and other personal information. Failure to comply with data protection laws and regulations could result in government enforcement actions and create liability for us, including civil and/or criminal penalties, private litigation and/or adverse publicity that could negatively affect our operating results and business. In addition, we may obtain health information from third parties (e.g., healthcare providers who prescribe our products) that are subject to privacy and security requirements under HIPAA, as amended by HITECH. Although we are not directly subject to HIPAA—other than potentially with respect to providing certain employee benefits—we could be subject to criminal penalties if we knowingly obtain or disclose individually identifiable health information maintained by a HIPAA-covered entity in a manner that is not authorized or permitted by HIPAA. HIPAA generally requires that healthcare providers and other covered entities obtain written authorizations from patients prior to disclosing protected health information of the patient (unless an exception to the authorization requirement applies). If authorization is required and the patient fails to execute an authorization or the authorization fails to contain all required provisions, then we may not be allowed access to and use of the patient’s information and our research efforts could be delayed. Furthermore, use of protected health information that is provided to us pursuant to a valid patient authorization is subject to the limits set forth in the authorization (e.g., for use in research and in submissions to regulatory authorities for product approvals). In addition, HIPAA does not replace federal, state, international or other laws that may grant individuals even greater privacy protections.

On June 28, 2018, California enacted the California Consumer Privacy Act (CCPA), which takes effect on January 1, 2020. The CCPA gives California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing, and receive detailed information about how their personal information is used. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. The CCPA may increase our compliance costs and potential liability. Some observers have noted that the CCPA could mark the beginning of a trend toward more stringent state privacy legislation in the U.S., which could increase our potential liability and adversely affect our business.

In the EU, the General Data Protection Regulation (GDPR) took effect on May 25, 2018, introducing sweeping new data protection requirements that carry potential fines of up to the greater of 20 million Euros or 4% of annual global revenue. The GDPR introduces strict requirements for processing personal data, including potentially burdensome documentation requirements, more stringent requirements for obtaining valid consent (where applicable), obligations to honor expanded rights of individuals to control the use and retention of their personal data, and requirements to notify regulators and affected individuals of certain personal data breaches. The GDPR also imposes heightened restrictions on processing of special categories of personal data, such as health and genetic personal data. In addition, the GDPR prohibits the transfer of personal data to countries outside of the European Economic Area (EEA), such as the United States, which are not considered by the European Commission to provide an adequate level of data protection. Switzerland has adopted similar restrictions. Although there are legal mechanisms to allow for the transfer of personal data from the EEA and Switzerland to the United States, they are subject to pending legal challenges that, if successful, could invalidate these mechanisms, restrict our ability to process personal data of Europeans outside of Europe and adversely impact our business. The GDPR will increase our responsibility and potential liability in relation to personal data that we process, expose us to substantial potential fines in the event of violations, increase our compliance costs and could restrict our operations in Europe.

The regulatory approval process is expensive, time consuming, and uncertain and may prevent us or our collaboration partners from obtaining approvals for the commercialization of some or all of our product candidates.

The research, development, manufacturing, quality control, labeling, approval, safety, effectiveness, storage, record keeping, reporting, selling, import, export, advertising, promotion, marketing, and distribution of drug products are subject to extensive regulation by the FDA and other regulatory authorities in the United States, and by regulatory authorities in other countries, with different regulations from country to country. Neither we nor our collaboration partners are permitted to market our product candidates in the United States or other countries until we receive regulatory approvals. In August 2017, GOCOVRI was FDA-approved for the treatment of dyskinesia in patients with Parkinson’s

disease receiving levodopa-based therapy, with or without concomitant dopaminergic medications. The FDA will need to approve supplemental NDAs for GOCOVRI before we can market the drug for other indications, such as multiple sclerosis walking impairment.

To receive approval to commercialize any of our product candidates in the United States, we and our collaboration partners must demonstrate with substantial evidence from adequate and well-controlled clinical studies, and to the satisfaction of the FDA, that such product candidates are safe and effective for their intended uses. Results from preclinical studies and clinical studies can be interpreted in different ways. Even if we and our collaboration partners believe the preclinical or clinical data for our product candidates are promising, such data may not be sufficient to support approval by the FDA. Administering any of our product candidates to humans may produce undesirable side effects, which could interrupt, delay, or cause suspension of clinical studies of our product candidates and result in the denial of approval of our product candidates for any or all targeted indications.

FDA approval of an NDA is not guaranteed, and the approval process is expensive and may take several years. The FDA also has substantial discretion in the approval process. Despite the time and expense we invest, failure can occur at any stage, and we could encounter problems that require us to repeat clinical studies, perform additional preclinical studies and clinical studies, or abandon development and commercialization of a product candidate altogether. The number of preclinical studies and clinical studies that will be required for FDA approval varies depending on, among other factors, the product candidate, the disease or condition that the product candidate is designed to address, and the regulations applicable to any particular product candidate. The FDA can delay, limit, or deny approval of a product candidate for many reasons, including, but not limited to:

- disagreement with the design or implementation of our clinical trials;
- failure of clinical trials to show the level of statistical significance or clinical meaningfulness needed for approval;
- failure to demonstrate that a product candidate is safe or effective;
- insufficient data from preclinical and clinical studies to support an application;
- a finding by an institutional review board, or IRB, Data Safety Monitoring Board, or DSMB, Data Monitoring Committee, or DMC, or the FDA that the clinical trial exposes subjects or patients to an unacceptable health risk;
- disapproval of our or our third-party manufacturer's processes or facilities; or
- changes to FDA's approval policies or regulations.

If any of our product candidates fails to demonstrate safety and efficacy in clinical studies or does not gain regulatory approval, our business and results of operations will be materially and adversely harmed.

If the FDA concludes that our product candidates do not satisfy the requirements for approval under the Section 505(b)(2) regulatory approval pathway, or if the requirements for approval under Section 505(b)(2) are not as we expect, the approval pathway for our products will likely take significantly longer, cost significantly more, and entail significantly greater complications and risks than anticipated, and in any case may not be successful. Similar obstacles may arise in other countries.

Similar to the approval pathway for GOCOVRI, we are developing our current and future product candidates, with the expectation that they will be eligible for approval through the Section 505(b)(2) regulatory pathway. Section 505(b)(2) of the FDCA allows an NDA to rely in part on the FDA's prior conclusions regarding the safety and effectiveness of an approved drug product, or reference listed drug, or RLD. Use of the Section 505(b)(2) regulatory pathway could reduce the time required for the development programs of our product candidates by, for example, potentially decreasing the amount of preclinical and/or clinical data specific to a product candidate that we would need to generate in order to obtain FDA approval. If the FDA does not allow us to pursue the Section 505(b)(2) regulatory pathway as anticipated, we may need to conduct additional clinical trials, provide additional data and information, and meet additional standards for product approval. If this were to occur, the time and financial resources required to obtain FDA approval for our product candidates, and the complications and risks associated with regulatory approval would likely substantially increase. Moreover, our inability to pursue the Section 505(b)(2) regulatory pathway may result in competitive products reaching the market more quickly than our product candidates, which would adversely impact our

competitive position and prospects. Even if we are able to utilize the Section 505(b)(2) regulatory pathway, there is no guarantee that utilizing this pathway will ultimately lead to faster product development or earlier approval for any product candidate that we may attempt to develop and commercialize.

An NDA submitted through the Section 505(b)(2) regulatory pathway for a drug product with an active moiety that has been previously approved in another product (e.g., amantadine) may be entitled to three years of regulatory exclusivity if the NDA contains data from clinical investigations (other than bioavailability or bioequivalence studies) conducted by or for the sponsor and deemed essential to FDA's approval of the NDA. This regulatory exclusivity precludes, among other things, approval of another 505(b)(2) NDA for a product with the same conditions of approval. Although obtaining such exclusivity for our product candidates could provide a competitive benefit for us, the availability of such exclusivity to competitors, if their products were to be approved before our product candidates, presents a risk. If a competing product were approved in our target indication and granted three years of exclusivity, and if the FDA were to find that our product candidate does not differ with respect to the relevant conditions of approval of the approved competing product, then approval of the 505(b)(2) NDA for our product candidate in the target indication may be delayed for as long as the competitor has exclusivity.

With a Section 505(b)(2) NDA, we also must certify to the FDA concerning any patents listed for the RLD in the Orange Book. A certification that our product candidate does not infringe the RLD's Orange Book-listed patents, or that such patents are invalid (known as a paragraph iv certification) would require providing notice of that certification to the patent holder and the sponsor of the RLD NDA, and we could then be challenged in court by the patent owner or the holder of the approved NDA for the RLD. If such a lawsuit were to be filed within a specified timeframe, it would lead to a 30-month period during which FDA would be precluded from approving our NDA.

Risks related to intellectual property

Our ability to successfully commercialize GOCOVRI and our product candidates may be materially adversely affected if we are unable to obtain and maintain effective intellectual property rights for our products and product candidates.

Our success depends in large part on our ability to obtain and maintain patent and other intellectual property protection in the United States and in other countries with respect to GOCOVRI and our product candidates. We have sought to protect GOCOVRI and our product candidates by filing patent applications in the United States and abroad related to our novel technologies and products that are important to our business. This process is expensive and time-consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. In addition, we may not pursue or obtain patent protection in all relevant markets. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. Our pending and future patent applications may not result in patents being issued which protect our technology or products, in whole or in part. In addition, our existing patents and any future patents we obtain may not be sufficiently broad to prevent others from using our technologies or from developing competing products and technologies.

The patent position of pharmaceutical and biotechnology companies generally is highly uncertain and involves complex legal and factual questions for which many legal principles remain unresolved. In recent years, patent rights have been the subject of significant litigation. As a result, the issuance, scope, validity, enforceability, and commercial value of our patent rights are highly uncertain. Our pending and future patent applications may not result in patents being issued in the United States or in other jurisdictions which protect our technology or products or which effectively prevent others from commercializing competitive technologies and products. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our patents or narrow the scope of our patent protection. In addition, the laws of foreign countries may not protect our rights to the same extent as the laws of the United States. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot be certain that we were the first to make the inventions claimed in our patents or pending patent applications, or that we were the first to file for patent protection of such inventions. In addition, the United States Patent and Trademark Office, or USPTO, might require that the term of a patent issuing from a pending patent application be disclaimed and limited to the term of another patent that is commonly owned or names a common inventor. As a result, the issuance, scope, validity, enforceability, and commercial value of our patent rights is highly uncertain.

Current or future patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents. In March 2013, under the Leahy-Smith America Invents Act, or America Invents Act, the United States moved from a “first to invent” to a “first-to-file” system. Under a “first-to-file” system, assuming the other requirements for patentability are met, the first inventor to file a patent application generally will be entitled to a patent on the invention regardless of whether another inventor had made the invention earlier. The America Invents Act includes a number of other significant changes to U.S. patent law, including provisions that affect the way patent applications are prosecuted, redefine prior art and establish a new post-grant review system. The effects of these changes are currently unclear and/or uncertain, as the USPTO only recently developed new regulations and procedures in connection with the America Invents Act and many of the substantive changes to patent law, including the “first-to-file” provisions, became effective in March 2013. In addition, the courts have only recently started to address these provisions such that the law is still developing, and the applicability of the act and new regulations on specific patents discussed herein have not been determined and would need to be reviewed. However, the America Invents Act and its continued implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business and financial condition.

From time to time, we may become involved in opposition, interference, derivation, *inter partes* review, post-grant review, or other proceedings challenging our patent rights or the patent rights of others, and the outcome of any proceedings are highly uncertain. An adverse determination in any such proceeding could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or products and compete directly with us or Allergan, without payment to us.

Even if our patent applications issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors from competing with us, or otherwise provide us with any competitive advantage. Our competitors may be able to circumvent our owned or licensed patents by developing similar or alternative technologies or products in a non-infringing manner. The issuance of a patent is not conclusive as to its scope, validity, or enforceability, and our owned and licensed patents may be challenged in the courts or patent offices in the United States and abroad. Such challenges may result in the patent claims of our owned or licensed patents being narrowed, invalidated, or held unenforceable, which could limit our ability to stop or prevent us from stopping others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and products. Given the amount of time required for the development, testing, and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours or otherwise provide us with a competitive advantage.

For our partnered assets, like Namzaric, we may not have the right to control the prosecution of patent application, or to maintain or enforce the patent, covering our products or product candidates that we license to third parties or that we may license from third parties. Therefore, we cannot be certain that these patents and applications will be prosecuted and enforced in a manner consistent with the best interests of our business. In addition, if third parties who license patents to us or from us fail to maintain such patents, or lose rights to those patents, the rights we have licensed may be reduced or eliminated.

We may not be able to protect our intellectual property rights throughout the world.

Filing, prosecuting, and defending patents on all of our product candidates throughout the world would be prohibitively expensive. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories where we have patent protection but where enforcement is not as strong as in the United States. These products may compete with our product candidates in jurisdictions where we do not have any issued patents, and our patent claims or other intellectual property rights may not be effective or sufficient to prevent them from so competing. Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biopharmaceuticals, which could make it difficult for us to stop the infringement of our patents or marketing of competing products against third parties in violation of our proprietary rights generally. The initiation of proceedings by third parties to enforce our patent rights in foreign jurisdictions could result in substantial cost and divert our efforts and attention from other aspects of our business.

Obtaining and maintaining our patent protection depends upon compliance with various procedural, document submission, fee payment, and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment, and other provisions during the patent prosecution process and following the issuance of a patent. Our failure to comply with such requirements could result in abandonment or lapse of a patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, competitors might be able to enter the market earlier than would otherwise have been the case if our patent were in force.

We may become involved in lawsuits or other proceedings to protect or enforce our patents or other intellectual property, which could be expensive, time-consuming, and if unsuccessful could materially harm our business.

Competitors may infringe or otherwise violate our patents, trademarks, copyrights or other intellectual property for GOCOVRI, our partnered products, and our product candidates. To counter infringement or unauthorized use, we or our licensees may be required to file infringement claims, which can be expensive and time-consuming. For example, on February 16, 2018, Osmotica Pharmaceuticals LLC and Vertical Pharmaceuticals LLC (“Osmotica”) filed an action against us in U.S. District Court for the state of Delaware, requesting a declaratory judgment that Osmotica’s newly-approved product Osmolex ER™ (amantadine) extended release tablets does not infringe certain of our patents. For further information, see *Litigation and Other Legal Proceedings* in “Note 8 – Commitments and Contingencies” in the accompanying “Notes to Condensed Consolidated Financial Statements (unaudited)”.

We anticipate that the prosecution of the lawsuits related to our partnered products and any lawsuits related to GOCOVRI will require a significant amount of time and attention of our chief executive officer and other senior executives. In addition, in a patent infringement proceeding, a court may decide that a patent of ours is invalid or 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 product in question. An adverse result in any litigations or proceeding could put one or more of our patents at risk of being invalidated or interpreted narrowly. Such a result could limit our ability to prevent others from using or commercializing similar or identical products, limit our ability to prevent others from launching generic versions of our products and could limit the duration of patent protection for our products, all of which could have a material adverse effect on our business. Also, a successful challenge to our patents could reduce or eliminate our right to receive royalties from Allergan under our license agreement with Allergan. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation.

Third parties may initiate legal proceedings alleging that we or our partners are infringing their intellectual property rights, the outcome of which would be uncertain and could have a material adverse effect on the success of our business.

Our commercial success depends upon our ability and the ability of our partners to develop, manufacture, market, and sell our product candidates and to use our proprietary technologies without infringing, misappropriating, or otherwise violating the proprietary rights or intellectual property of third parties. We or our partners may become party to, or be threatened with, future adversarial proceedings or litigation regarding intellectual property rights with respect to our products and technology, including interference, derivation, re-examination, *inter partes* review, post-grant review, opposition, or similar proceedings before the USPTO and its foreign counterparts. The costs of these proceedings could be substantial, and the proceedings may result in a loss of such intellectual property rights. Some of our competitors may be able to sustain the costs of complex patent disputes and litigation more effectively than we can, because they have substantially greater resources. In addition, any uncertainties resulting from the initiation and continuation of any disputes or litigation could adversely affect our ability to raise the funds necessary to continue our operations. Third parties may assert infringement claims against us or our partners based on existing patents or patents that may be granted in the future. Under our license agreement with Allergan we are obliged to indemnify Allergan under certain circumstances and our royalty entitlements may also be reduced. Our indemnification obligation to Allergan, while subject to customary limitations, has no monetary cap, and our right to receive royalties from Allergan may be eliminated in any calendar quarter in which certain third party generic competition exists. If we or our partners are found to infringe a third-party’s intellectual property rights, we could be required to obtain a license from such third-party to continue developing and marketing our products and technology. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. We could be forced, including by court order, to

cease commercializing the infringing technology or product. In addition, we could be found liable for monetary damages. A finding of infringement could prevent us from commercializing our product candidates or force us to cease some of our business operations, which could materially harm our business. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business.

We may be unable to protect the confidentiality of our trade secrets, thus harming our business and competitive position.

In addition to our patented technology and products, we rely upon trade secrets, including unpatented know-how, technology, and other proprietary information, to develop and maintain our competitive position, which we seek to protect, in part, by confidentiality agreements with our employees, our partners, and consultants. We also have agreements with our employees and selected consultants that obligate them to assign their inventions to us. However, while it is our policy to require our employees and contractors who may be involved in the conception or development of intellectual property to execute such agreements, we may be unsuccessful in executing such an agreement with each party who in fact conceives or develops intellectual property that we regard as our own. In addition, it is possible that technology relevant to our business will be independently developed by a person that is not a party to such an agreement.

While to our knowledge the confidentiality of our trade secrets has not been compromised, if the employees, consultants or partners that are parties to these agreements breach or violate the terms of these agreements, we may not have adequate remedies for any such breach or violation, and we could lose our trade secrets through such breaches or violations. Further, our trade secrets could be disclosed, misappropriated, or otherwise become known or be independently discovered by our competitors. In addition, intellectual property laws in foreign countries may not protect our intellectual property to the same extent as the laws of the United States. If our trade secrets are disclosed or misappropriated, it would harm our ability to protect our rights and adversely affect our business.

Risks related to Namzaric®

Under our license agreement with Allergan, if Allergan fails to successfully commercialize Namzaric for any reason or if the license agreement with Allergan is terminated, the potential royalties we are eligible to receive under our license agreement with Allergan may not occur or be minimal, and would have a negative impact on our revenue potential and harm our business.

In November 2012, we entered into a license agreement with Allergan pursuant to which we granted Allergan a right to develop and commercialize Namzaric in the United States. Under that agreement, we expect to receive future royalties from Allergan on the net sales of Namzaric, starting in 2020. If for any reason Allergan fails to successfully commercialize Namzaric, on which we are eligible to receive double digits percentage royalties, we may not receive such future royalties or receive minimal amounts, and our business will be harmed.

Under the license agreement, we are reliant on Allergan to commercialize Namzaric and in that capacity Allergan has the discretion to:

- determine the efforts and resources that they apply towards commercialization;
- market, manufacture, and distribute the licensed products or to otherwise not perform satisfactorily in carrying out these activities; and
- to terminate the agreement without penalty and, such termination, may result in a need for additional capital to pursue further development or commercialization of the applicable current or future products.

Under the license agreement we are also eligible to receive royalties on net sales of Namenda XR, but we do not expect to receive such royalties, due to the entry of generic versions of Namenda XR.

Under the license agreement, Allergan substantially controls the intellectual property rights subject to the agreement and any ANDA litigation and potential settlement thereof, and has economic interests different from ours. Accordingly, Allergan may manage the litigation and settlements on terms which may have a material and negative impact on our business.

We and Allergan have been involved in various ANDA litigations to enforce our intellectual property rights against generic manufacturers, who are seeking to bring generic versions of Namzaric to the market. See *Litigation and*

Other Legal Proceedings in “Note 8 – Commitments and Contingencies” in the accompanying “Notes to Condensed Consolidated Financial Statements (unaudited)”. Under the terms of that license agreement, Allergan has the right to enforce such intellectual property rights and control such litigation. Specifically, Allergan has the discretion to:

- maintain or defend our intellectual property rights or may use our intellectual property or proprietary information in a way that gives rise to actual or threatened litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential liability; and
- not adequately pursue litigation against ANDA filers or settle such litigation on unfavorable terms, and as Allergan substantially controls any ANDA litigation and terms of settlement and has different economic interests than ours, Allergan may grant licenses to generic manufacturers that permit them to make and sell generic versions of Namzaric, which would negatively impact the royalties we receive under our license with Allergan.

We have a right to participate in, but not control, such litigations. If Allergan decides not to enforce the intellectual property rights licensed under the agreement or the litigation is resolved in favor of the generic manufacturers or if the FDA approves the ANDA filed by the generic manufacturers, such manufacturers may be able to market and sell the generic form of the branded drug in competition with Namzaric. This could harm our business. Based upon settlement agreements with all the ANDA filers for Namzaric, the earliest date on which any of these agreements grants a license to market generic version of Namzaric is January 1, 2025 or earlier in certain limited circumstances.

We are the subject of litigation claiming violation of Federal and state false claims acts in connection with the commercialization of Namenda XR and Namzaric by Allergan, which may have a material and negative impact on our business.

On April 1, 2019, we were served with a complaint against us and several Allergan entities alleging violations of Federal and state false claims acts (“FCA”) in connection with the commercialization of Namenda XR and Namzaric by Allergan, as further described in *Litigation and Other Legal Proceedings* in “Note 8 – Commitments and Contingencies” in the accompanying “Notes to Condensed Consolidated Financial Statements (unaudited)”. The complaint alleges that patents held by Allergan and us covering Namenda XR and Namzaric were procured through fraud on the United States Patent and Trademark Office and that these patents were asserted against potential generic manufacturers of Namenda XR and Namzaric to prevent the generic manufacturers from entering the market, thereby wrongfully excluding generic competition resulting in artificially high price being charged to government payors. The complaint includes a claim for damages of “potentially more than \$2.5 billion dollars,” treble damages and statutory penalties. We are in the early stages of this litigation. Defending this litigation may be costly, divert time and attention of our management from the conduct of our business, and if we are unable to prevail in this litigation it may result in substantial damages, each of which could have a material and negative impact on our business.

Risks related to our financial condition and need for additional capital

Our operating results may fluctuate significantly, which makes our future operating results difficult to predict and could cause our operating results to fall below expectations.

Our quarterly and annual operating results may fluctuate significantly in the future, which makes it difficult for us to predict our future operating results. Any future revenue will depend on our ability to market and sell GOCOVRI and our product candidates, the payment of royalties to us from Allergan under terms of our licensing agreement regarding Namzaric, or the establishment of potential future collaboration and license agreements, if any, and the achievement of any upfront or milestone payments provided thereunder. Furthermore, our operating results may fluctuate due to a variety of other factors, many of which are outside of our control and may be difficult to predict, including:

- the level of demand for our products, which may vary significantly as they are launched and compete for position in the marketplace;
- pricing and reimbursement policies with respect to GOCOVRI and product candidates, if approved, and the competitive response from existing and potential future therapeutic approaches that compete with our product candidates;

- the cost of manufacturing our product candidates, which may vary due to a number of factors, including the terms of our agreements with contract manufacturing organizations, or CMOs;
- the timing, cost, level of investment, and success or failure of research and development activities relating to our preclinical and clinical-stage product candidates, which may change from time to time;
- expenditures that we may incur to acquire and develop additional product candidates and technologies;
- the timing and success or failure of clinical studies for competing product candidates, or any other change in the competitive landscape of our industry, including consolidation among our competitors or partners;
- the timing and magnitude of upfront and milestone payments under any potential future collaboration and licensing agreements;
- future accounting pronouncements or changes in our accounting policies; and
- changing or volatile U.S., European, and global economic environments.

The cumulative effects of these factors could result in large fluctuations and unpredictability in our quarterly and annual operating results. As a result, comparing our operating results on a period-to-period basis may not be meaningful. Investors should not rely on our past results as an indication of our future performance. This variability and unpredictability could also result in our failing to meet the expectations of industry or financial analysts or investors for any period. If our operating results fall below the expectations of analysts or investors or below any forecasts we may provide to the market, or if the forecasts we provide to the market are below the expectations of analysts or investors, the price of our common stock could decline substantially. Such a stock price decline could occur even when we have met any previously publicly stated operating results and/or earnings guidance that we may provide.

If we do not have adequate funds to cover all of our development and commercial activities, we may have to raise additional capital or curtail or cease operations.

We began to commercialize GOCOVRI for the treatment of dyskinesia in patients with Parkinson's disease receiving levodopa-based therapy, with or without concomitant dopaminergic medications, in January 2018, and it will require substantial funds to continue to commercialize GOCOVRI. In addition, funds are required for the continued operation of our business, as we seek to advance additional product candidates through the research and clinical development to regulatory approval and commercialization. In May 2017, we entered into a Sales Agreement with Cowen and Company, LLC under which we may offer and sell our common stock having aggregate sales proceeds of up to \$50 million from time to time through Cowen and Company, LLC as our sales agent. As of June 30, 2019, we have not made any sales under this facility. As of June 30, 2019, we had approximately \$168.6 million in cash, cash equivalents, and investments. We believe that our available cash, cash equivalents, and investments will be sufficient to fund our anticipated level of operations for at least the next 12 months, but there can be no assurance that this will be the case.

We have financed our operations primarily through proceeds from our license agreement with Allergan, public and private equity offerings, our Royalty-Backed Loan with HealthCare Royalty Partners III, L.P., or HCRP, since 2017 with sales of GOCOVRI, and, to a lesser extent, government grants, venture debt, and benefits from tax credits made available under a federal stimulus program supporting drug development. We have devoted substantially all of our efforts to research and development, including clinical studies, of our product candidates, including GOCOVRI for the treatment of dyskinesia in patients with Parkinson's disease. We anticipate that our cash requirements will increase substantially as we:

- enhance operational, financial, and information management systems and hire more personnel, including personnel to support development of our product candidates and, our commercial operations;
- commercialize GOCOVRI, including establishing distribution, marketing, and sales capabilities;
- manufacture GOCOVRI for commercial use;
- investigate ADS-5102 (GOCOVRI) in preclinical and clinical trials for the treatment of walking impairment in patients with MS, and potentially other indications;
- seek regulatory approvals for our product candidates that successfully complete clinical studies;

- continue the research, development, and manufacture of our current product candidates; and
- seek to discover or in-license additional product candidates.

If we do not have adequate funds to support these activities, our business opportunities could be hindered.

If we need additional funds to operate our business and if we cannot raise additional capital when needed, or if additional capital is not available to us on favorable terms, our stockholders may be adversely affected or our business may be harmed.

If we need additional funds to support our business and additional funding is not available on favorable terms or at all, we may need to delay or reduce the scope of our research and clinical development programs or commercialization efforts. We do not have any committed external source of funds or other support for our development efforts. We expect to finance future cash needs through a combination of public or private equity offerings, debt financings, royalty financings, collaborations, strategic alliances, licensing arrangements, asset sales, and other marketing and distribution arrangements. Additional financing may not be available to us when we need it or it may not be available on favorable terms. If we raise additional capital through debt financings, royalty financings, collaborations, strategic alliances, or licensing arrangements with third parties, we may have to relinquish certain valuable rights to our product candidates, technologies, future revenue streams, or research programs or grant licenses on terms that may not be favorable to us. If we raise additional capital through equity offerings, the ownership interest of our existing stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect our stockholders' rights. If we raise additional capital through debt financing, in addition to the repayment of principal and interest on negotiated terms, we may be subject to covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we are unable to obtain adequate financing when needed, we may have to delay, reduce the scope of, or suspend one or more of our clinical studies or research and development programs or our commercialization efforts.

We have outstanding debt backed by two of our principal assets, GOCOVRI and royalties we may receive on Namzaric, and failure by us or our royalty subsidiary to fulfill our obligations under the applicable loan agreements may cause the repayment obligations to accelerate.

In May 2017, we, through a newly formed wholly-owned subsidiary, entered into a royalty-backed note arrangement with HCRP, pursuant to which we initially borrowed \$35 million and then borrowed an additional \$65 million upon FDA approval and FDA's recognition in the Orange Book of the seven-year orphan drug exclusivity that GOCOVRI earned upon approval in August 2017, for the treatment of dyskinesia in patients with Parkinson's disease receiving levodopa-based therapy, with or without concomitant dopaminergic medications.

Interest and principal on the loan will be payable from the proceeds of royalty on U.S. net sales of GOCOVRI and up to \$15 million of our annual royalties from Allergan on U.S. net sales of Namzaric starting in May 2020. The HCRP notes mature in December 2026, if not earlier repaid.

We secured the loan with rights to GOCOVRI (ADS-5102) and rights to certain payment amounts on Namzaric and the loan documents further provide for assignment into our subsidiary holding these rights to any future intellectual property, licenses, assets and agreements with respect to the manufacture, development, supply, distribution, sale and commercialization of GOCOVRI. The loan documents contain customary events of default permitting HCRP to accelerate and require mandatory prepayment of outstanding principal and interest, including: failure to timely pay principal and interest when due and payable; failure to perform specified covenants with respect to maintenance of the collateral and prohibitions on liens with respect to the collateral; limitations on payments of dividends, additional loans, acquisition or merger transactions not in accordance with the arrangement. Upon the occurrence, an event of default under the loan documents, we could be required to prepay the entire loan and, if we are not able to do so, we may lose control over certain rights and payments to GOCOVRI and royalty payments with respect to Namzaric, either of which would seriously harm our business.

We are and in the future may be subject to securities litigation, which may be expensive and could divert management attention.

Our share price is volatile, and in the past companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We have become the target of this type of litigation and in May 2019 a putative class action lawsuit alleging violations of the federal securities laws was filed against us and certain

of our current and former directors and officers alleging violations of the securities laws by us and certain of our current and former directors and officers in connection with our January 2018 secondary public offering of common stock. Lawsuits such as this one can be expensive to defend and could divert our management's attention from the conduct of our business, which could have an adverse effect on our business.

Risks related to ownership of our common stock

Our stock price may be volatile, and purchasers of our common stock could incur substantial losses.

Our stock price has fluctuated in the past and may be volatile in the future. The stock market in general and the market for securities of pharmaceutical and biotechnology companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, investors may experience losses on their investments in our stock.

In addition, the clinical development stage of our operations may make it difficult for investors to evaluate the success of our business to date and to assess our future viability. The market price for our common stock may be influenced by many factors, including:

- our success in commercializing GOCOVRI for the treatment of dyskinesia in patients with Parkinson's disease;
- the availability of reimbursement by third-party payers at acceptable levels, or at all, for GOCOVRI;
- the success of competitive products or technologies;
- results of clinical studies of our product candidates or those of our competitors;
- introductions and announcements of new products and product candidates by us, our commercialization partners, or our competitors, and the timing of these introductions or announcements;
- actions taken by regulatory agencies with respect to our or our competitors' products, product candidates, clinical studies, manufacturing process, or sales and marketing terms;
- variations in our financial results or those of companies that are perceived to be comparable to us;
- our revenue performance, both in absolute terms and relative to analyst and shareholder expectations;
- the success of our efforts to acquire or in-license additional products or product candidates;
- developments concerning our collaborations, including but not limited to those with our sources of manufacturing and our commercialization partners;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures, or capital commitments;
- developments or disputes concerning patents or other proprietary rights, including patents, litigation matters, and our ability to obtain patent protection for our current or future products;
- our ability or inability to raise additional capital and the terms on which we raise it;
- the recruitment or departure of key personnel;
- changes in the structure of healthcare reimbursement systems;
- regulatory or legal developments in the United States and other countries, especially changes in laws or regulations applicable to our current or future products;
- market conditions in the pharmaceutical and biotechnology sectors;
- actual or anticipated changes in revenue forecasts, earnings estimates or changes in stock market analyst recommendations regarding our common stock, other comparable companies or our industry generally;
- trading volume of our common stock;
- sales of our common stock by us or our stockholders;

- general economic, industry, and market conditions; and
- the other risks described in this “Risk Factors” section.

These broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance. Additionally, following periods of volatility in the market, securities class-action litigation has often been instituted against companies. Such litigation, if instituted against us, could result in substantial costs and diversion of management’s attention and resources, which could materially and adversely affect our business, financial condition, results of operations, and growth prospects.

Sales of a substantial number of shares of our common stock in the public market by our existing stockholders could cause our stock price to fall.

Sales of a substantial number of shares of our common stock in the public market, or the perception that these sales might occur, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. We are unable to predict the effect that sales may have on the prevailing market price of our common stock.

Concentration of ownership of our common stock among our existing executive officers, directors, and principal stockholders may prevent new investors from influencing significant corporate decisions.

Our executive officers, directors and current beneficial owners of 5% or more of our common stock, in the aggregate, beneficially own a significant percentage of our outstanding common stock. These persons, acting together, will be able to significantly influence all matters requiring stockholder approval, including the election and removal of directors and any merger or other significant corporate transactions. The interests of this group of stockholders may not coincide with the interests of other stockholders.

We will continue to incur increased costs and demands upon management as a result of complying with the laws and regulations affecting public companies, and we could fail to successfully improve our systems, procedures, and controls, which could affect our operating results.

As a public company, we will continue to incur legal, accounting and other expenses associated with reporting requirements and corporate governance requirements, including requirements under the Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, as well as new rules implemented by the SEC and the Nasdaq Stock Market LLC. We expect that we will need to continue to improve existing, and implement new operational, financial, and information management systems, procedures, and controls to manage our business effectively. Any delay in the implementation of, or disruption in the transition to, new or enhanced systems, procedures, or controls may cause our operations to suffer and we may be unable to conclude that our internal control over financial reporting is effective.

An active trading market for our common stock may not be maintained.

Our stock is currently traded on Nasdaq, but we can provide no assurance that we will be able to maintain an active trading market on Nasdaq or any other exchange in the future or that the daily trading volume will be adequate to allow orderly purchases or sales of our common stock without significantly impacting the price per share. If an active market for our common stock is not maintained, it may be difficult for our stockholders to sell shares without depressing the market price for the shares or at all.

If securities or industry analysts do not publish research, or publish inaccurate or unfavorable research, about us or our business, our stock price and trading volume could decline.

The trading market for our common stock depends, in part, on the research and reports that securities or industry analysts publish about us or our business. Securities and industry analysts may cease to publish research on our company at any time in their discretion. If one or more of these analysts cease coverage of our company or fail to publish reports on us regularly, demand for our stock could decrease, which might cause our stock price and trading volume to decline. In addition, if one or more of the analysts who cover us downgrade our stock or publish inaccurate or unfavorable research about our business, our stock price would likely decline. If our operating results fail to meet the forecast of analysts, our stock price will likely decline.

Provisions in our corporate charter documents and under Delaware law could make an acquisition of us more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our corporate charter and our bylaws may discourage, delay, or prevent a merger, acquisition, or other change in control of us that stockholders may consider favorable, including transactions in which stockholders might otherwise receive a premium for their shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Because our board of directors is responsible for appointing the members of our management team, these provisions could in turn affect any attempt by our stockholders to replace current members of our management team. Among others, these provisions include that:

- our board of directors is divided into three classes with staggered three-year terms, which may delay or prevent a change of our management or a change in control;
- our board of directors has the right to change the size of our board of directors and 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 stockholders may not act by written consent or call special stockholders' meetings; as a result, a holder, or holders, controlling a majority of our capital stock would not be able to take certain actions other than at annual stockholders' meetings or special stockholders' meetings called by the board of directors or the chairman of the board and chief executive officer;
- our certificate of incorporation prohibits cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- stockholders must provide advance notice and additional disclosures in order to nominate individuals for election to the board of directors or to propose matters that can be acted upon at a stockholders' meeting, which may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company; and
- our board of directors may issue, without stockholder approval, shares of undesignated preferred stock, and the ability to issue undesignated 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.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

Because we do not anticipate paying any cash dividends on our common stock in the foreseeable future, capital appreciation, if any, will be our stockholders' sole source of gain.

We have never declared or paid cash dividends on our common stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. In addition, the terms of existing or any future debt agreements may preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be our stockholders' sole source of gain for the foreseeable future.

Risks related to the operation of our business

Our future success depends on our ability to retain our chief executive officer and other key executives and to attract, retain, and motivate qualified personnel.

We are highly dependent on our chief executive officer and the other members of our executive, scientific, and commercial teams. Our executives may terminate their employment with us at any time. The loss of the services of any of these people could impede the achievement of our research, development, and commercialization objectives.

Recruiting and retaining qualified scientific, clinical, manufacturing, and commercial personnel will also be critical to our success. We may not be able to attract and retain these personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategies. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us.

We expect to expand our development and sales and marketing capabilities, and, as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.

As of June 30, 2019, we had 141 full-time equivalent employees. Over the next several years, we expect to experience growth in the number of our employees and the scope of our operations. To manage our anticipated future growth, we must continue to implement and improve our managerial, operational, informational, and financial systems, expand our facilities, and continue to recruit and train additional qualified personnel. Due to our limited financial resources and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. The physical expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

Our ability to use net operating losses to offset future taxable income may be subject to limitations.

As of December 31, 2018, we had federal and state net operating loss carryforwards of \$271.6 million and \$236.2 million, respectively. The federal net operating loss carryforwards will begin to expire, if not utilized, beginning in 2025, and the state net operating loss carryforward begins expiring in 2028. These net operating loss carryforwards could expire unused and be unavailable to offset future income tax liabilities. Under the newly enacted federal income tax law, federal net operating losses incurred in 2018 and in future years may be carried forward indefinitely, but the deductibility of such federal net operating losses is limited. It is still uncertain if and to what extent various states will conform to the newly enacted federal tax law. In addition, under Section 382 of the Internal Revenue Code of 1986, as amended, and corresponding provisions of state law, if a corporation undergoes an “ownership change,” which is generally defined as a greater than 50% change, by value, in its equity ownership over a three-year period, the corporation’s ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes to offset its post-change income or taxes may be limited. It is possible that we have experienced an ownership change limitation. We may experience ownership changes in the future as a result of subsequent shifts in our stock ownership, some of which may be outside of our control. If an ownership change occurs and our ability to use our net operating loss carryforwards is materially limited, it would harm our future operating results by effectively increasing our future tax obligations.

We are a “smaller reporting company” and we cannot be certain whether the reduced reporting requirements applicable to smaller reporting companies will make our common stock less attractive to investors.

We are a “smaller reporting company” and, as such, we may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not smaller reporting companies, including reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may suffer or be more volatile.

Business disruptions could seriously harm our future revenue and financial condition and increase our costs and expenses.

Our operations could be subject to earthquakes, power shortages, telecommunications failures, floods, hurricanes, fires, extreme weather conditions, medical epidemics, and other natural or manmade disasters or business interruptions. The occurrence of any of these business disruptions could seriously harm our operations and financial condition and increase our costs and expenses. Our corporate headquarters is located in California and certain clinical sites for our product candidates, operations of our existing and future partners, and suppliers are or will be located near major earthquake faults and fire zones. The ultimate impact on us, our significant partners, suppliers, and our general infrastructure of being located near major earthquake faults and fire zones and being consolidated in certain geographical areas is unknown, but our operations and financial condition could suffer in the event of a major earthquake, fire, or other natural or manmade disaster.

Any future operations or business arrangements with entities outside the United States present risks that could materially adversely affect our business.

If we obtain approval to commercialize any approved products or utilize CMOs outside of the United States, a variety of risks associated with international operations could materially adversely affect our business. If any product candidates that we may develop are approved for commercialization outside the United States, we will be subject to additional risks related to entering into international business relationships, including:

- different regulatory requirements for drug approvals in foreign countries;
- reduced protection for intellectual property rights;
- unexpected changes in tariffs, trade barriers, and regulatory requirements;
- different payer reimbursement regimes, governmental payers or patient self-pay systems and price controls;
- economic weakness, including inflation or political instability in particular foreign economies and markets;
- difficulties in assuring compliance with foreign corrupt practices laws;
- compliance with tax, employment, immigration, and labor laws for employees living or traveling abroad;
- foreign taxes, including withholding of payroll taxes;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenue, and other obligations incident to doing business in another country;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- compliance with privacy laws;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geopolitical actions, including war and terrorism, or natural disasters, including earthquakes, hurricanes or typhoons, floods, and fires.

Our internal computer systems, or those of our CROs, CMOs, or other contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of our business.

Despite the implementation of security measures, our internal computer systems and those of our CROs, CMOs, specialty pharmacy, distributors, and other contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war, and telecommunication and electrical failures. While we are not aware of any material system failure, accident, or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our drug development programs or commercialization efforts. For example, the loss of clinical study data from completed or ongoing clinical studies for any of our product candidates could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. While we back-up our internal computer systems periodically and store such data off-site or in the cloud, we can offer no assurance that such off-site storage of data will allow us to continue our business without interruptions to our operations, which could result in a material disruption of our drug development programs or commercialization efforts. To the extent that any disruption or security breach were to result in a loss of or damage to our

data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the further development of our product candidates could be delayed.

Risks generally associated with a company-wide implementation of information systems may adversely affect our business and results of operations or the effectiveness of our internal controls over financial reporting.

In support of our anticipated growth and commercial-stage operations, we have selected and implemented a number of company-wide information systems, and may select and implement additional systems in the future, including adding new functionality to our enterprise resource planning, or ERP, and other similar systems. Many of these systems are complex and their successful and timely implementation is not assured, requires significant capital expenditures, and can be disruptive to our business operations. Any deficiencies in the design and implementation of these systems could result in potentially much higher costs than we had anticipated and could adversely affect our ability to develop and launch solutions, provide services, fulfill contractual obligations, file reports with the SEC in a timely manner, operate our business, or otherwise affect our controls environment. Any of these consequences could have an adverse effect on our results of operations and financial condition.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

Not applicable.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

Not applicable.

ITEM 6. EXHIBITS

EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporation By Reference				Filed / Furnished Herewith
		Form	SEC File No.	Exhibit	Filing Date	
3.1	Amended and Restated Certificate of Incorporation of Adamas Pharmaceuticals, Inc.	8-K	001-36399	3.1	4/15/2014	
3.2	Amended and Restated Bylaws of Adamas Pharmaceuticals, Inc.	S-1	333-194342	3.4	3/5/2014	
4.1	Reference is made to Exhibits 3.1 through 3.2.					
4.2	Form of Common Stock Certificate of Adamas Pharmaceuticals, Inc.	S-1	333-194342	4.1	3/26/2014	
10.2	Offer Letter by and between Adamas Pharmaceuticals, Inc. and Vijay Shreedhar, Ph.D., dated May 14, 2019.					X
10.3*	First Amendment to Amended and Restated Commercial Supply Agreement by and between Adamas Pharmaceuticals, Inc. and Catalent Pharma Solutions, LLC.					X
10.4	2019 Compensation Arrangements with Executive Officers.	8-K	333-194342	Item 5.02	4/10/2019	
31.1	Certification of Principal Executive Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended.					X
31.2	Certification of Principal Financial Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended.					X
32.1	Certification of Principal Executive Officer and Principal Financial Officer pursuant to Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.(1)					X
101.INS	XBRL Instance Document					
101.SCH	XBRL Taxonomy Extension Schema Document					
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document					
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document					
101.LAB	XBRL Taxonomy Extension Label Linkbase Document					
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document					

(1) This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Registrant under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.

* Certain portions of this exhibit (indicated by “[*]”) have been omitted as Adamas Pharmaceuticals, Inc. determined (i) the omitted information is not material and (ii) the omitted information would likely cause harm to Adamas Pharmaceuticals, Inc. if publicly disclosed.

SIGNATURES

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

Adamas Pharmaceuticals, Inc.

(Registrant)

Date: August 8, 2019

/s/ Gregory T. Went, Ph.D.

Gregory T. Went, Ph.D.

Chief Executive Officer

(Principal Executive Officer)

Date: August 8, 2019

/s/ Alfred G. Merriweather

Alfred G. Merriweather

Chief Financial Officer

(Principal Financial Officer)



DATE: May 8, 2019

Vijay Shreedhar, PhD

Dear Vijay:

We are very excited to have you join Adamas Pharmaceuticals, Inc. ("the Company"). In this letter, I would like to set forth the terms and conditions of your employment relationship with the Company.

Title and Responsibilities. I am pleased to offer you the full-time position of Chief Commercial Officer working at our offices in **Emeryville, CA**. Your position with the Company is pursuant to the terms and conditions of this letter and accompanying Confidential Information and Invention Assignment Agreement, will commence on **May 29, 2019**. You will report to the Chief Executive Officer and your duties and responsibilities include, but are not limited to, leading Adamas' commercial strategy and execution, maintaining / building a strong team in your areas of responsibility, actively participating in the Executive Leadership Team, and raising the Company's profile with external constituencies. Specific functions reporting to you including but not limited to Marketing, Sales, Market Access, Commercial Analytics, Commercial Operations and Sales Training. Of course, the Company may change your position, duties, and work location from time to time in its discretion.

Compensation. You will initially receive an annual base salary of \$425,000. Your salary will be paid periodically in accordance with normal Company payroll practices and are subject to the usual required deductions and tax withholdings. In addition to your salary, you will be eligible to participate in the Company's Bonus Plan. The annual target bonus for your position is forty-five percent (45%) of your annual base salary, and any award would be based upon both the Company's achievement of its performance goals and your achievement of your personal goals to be set with the CEO. The performance targets for the corporation will be determined in conjunction with the CEO and the Compensation Committee. The actual award, if any, will be prorated from your date of hire for your first year of employment and will be subject to the usual required deductions and tax withholdings. The Company may change your compensation and benefits from time to time in its sole discretion.

Equity Awards. In addition, subject to the approval of the Company's Board of Directors or its Compensation Committee, it will be recommended that as a material inducement to you to accept this offer and to enter into employment with the Company, it will be recommended that you be granted two equity awards, each of which will be granted under, and be subject to the terms of, either the Company's 2014 Equity Incentive Plan, or the Company's 2016 Inducement Plan (each, the "Plan"). The equity awards will be: (1) a stock option to purchase 137,500 shares of the Company's common stock (the "Option"), and (2) an award of 68,750 Restricted Stock Units (the "RSU Award"). The exercise price per share of the Option will equal the fair market value of a share of Common Stock on the date of grant, as determined by the Board of Directors or Compensation Committee. If approved, and provided that you remain in Continuous Service (as defined in the Plan) to the Company on each date, 25% of the Option shares shall vest and become exercisable on the one year anniversary of your employment commencement date and an additional 1/48th of the Option shares shall vest and become exercisable on a monthly basis thereafter over the following 36 months, as described in the applicable Plan and your Option grant documents. If approved, and provided that you remain in Continuous Service to the Company on each date, 25% of the shares under the RSU Award

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will vest annually, as described in the applicable Plan and your RSU Award grant documents. In addition, the Company's Board of Directors reviews its executive compensation programs annually, including consideration for additional equity awards. If the Board determines that additional equity awards are appropriate, you will be eligible for consideration, with our other executive officers, for awards to be approved under the Board's sole discretion.

Travel and Lodging Allowance. During a period not to exceed 12 months from your start date, any reasonable travel expenses you incur to commute to Emeryville, CA prior to your relocation (including airfare and lodging) shall be reimbursed (the "Commuter Expenses"). If you incur any tax liability as a result of the reimbursement of the Commuter Expenses, the Company will make an additional payment to you (the "Commuter Expenses Gross-Up Payment") sufficient to cover the tax liability incurred by you as a result of the reimbursement of the Commuter Expenses; provided, however, that the Commuter Expenses Gross-Up Payment shall not exceed seventy five percent (75%) of the amount of the aggregate Commuter Expenses. The Commuter Expenses Gross-Up Payment shall be paid to you shortly after December 31 of the year in which the expenses were incurred, but in no event later than March 15 of the following year.

Relocation Advance. To assist you with your move to the Bay Area, the Company will pay directly a vendor of your choice a nominal amount not to exceed a combined total of \$20,000, to be used for relocation services and recruiting services for your wife, and to provide you with a relocation advance in the amount of **\$250,000**, less customary deductions and withholdings (the "Relocation Advance"). This Relocation Advance shall be treated and reported as taxable income to you. The Relocation Advance will be paid to you in two installments. The Company will make the first installment payment in the amount of \$62,500 within your first month of employment (the "First Installment") and you will earn the First Installment once you have fully relocated to the San Francisco Bay Area within two years of your employment start date. Accordingly, you acknowledge and agree that if you have not fully relocated to the Bay Area prior to your two year anniversary, then you are obligated to return the First Installment to the Company. The second installment payment in the amount of \$187,500 will be paid at the time of your home sale or home purchase, which is expected to occur within your first two years of employment (the "Second Installment") and you will earn the Second Installment once you have remained employed by the Company for a total of two (2) years. Accordingly, you acknowledge and agree that if you resign from the Company for any reason or if the Company terminates your employment for Cause (as defined in the Plan), in either case within two (2) years of your employment start date, you will be obligated to return the Second Installment to the Company. You will be required to repay any portions of the Relocation Advance due under this section to the Company within thirty (30) days of your two (2) year anniversary or your employment separation date.

Benefit Plans. During your employment with the Company, you will be eligible to participate in the employee benefit plans currently and hereafter maintained by the Company of general applicability to other employees of the Company. Details about these benefits are provided in the Employee Handbook and Summary Plan Descriptions, available for your review. Where a particular benefit is subject to a formal plan (for example, medical insurance or life insurance), eligibility to participate in and receive any particular benefit from the plan is governed solely by the applicable plan document.

Paid Time Off. As part of these benefits, you will be entitled to paid time off ("PTO") in accordance with the Company's PTO policy as in effect from time to time. Currently, the Company offers full-time employees 21 days of PTO per calendar year.

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Executive Severance Plan. Given your position with the Company, you will initially be eligible to participate in the Executive Severance Plan pursuant to the terms of that Plan. A copy of this Plan is enclosed with this letter. Our severance plan entitles you to certain benefits, including a 12 month continuation of Base Salary.

Company Policies and Confidential Information. You will be expected to abide by all Company rules and policies, and acknowledge in writing that you have read and will comply with the Company's Employee Handbook. The Company considers the protection of its confidential information, proprietary materials and goodwill to be extremely important. Consequently, as a condition of your employment with the Company, you also are required to sign and fully comply with the Confidential Information and Invention Assignment Agreement enclosed with this letter.

No Conflicting Agreements or Obligations. In your work for the Company, you will be expected not to use or disclose any confidential information, including trade secrets, of any former employer or other person to whom you have an obligation of confidentiality. Rather, you will be expected to use only that information which is generally known and used by persons with training and experience comparable to your own, which is common knowledge in the industry or otherwise legally in the public domain, or which is otherwise provided or developed by the Company. You agree that you will not bring onto Company premises, or upload onto any of the Company's systems, any unpublished documents, property, or confidential information belonging to any former employer or other person to whom you have an obligation of confidentiality. You hereby represent that you have disclosed to the Company any contract you have signed that may restrict your activities on behalf of the Company. You also represent that by performing your duties and responsibilities for Adamas, you will not breach any obligations you may owe to any of your former employers.

Conflicting Outside Employment. While employed by the Company, you may not work as an employee or consultant of any other organization or engage in any other activities which conflict or interfere with your employment obligations to the Company, including working for a competitive organization, or undertaking any activities that could create a conflict of interest.

At-Will Employment. Your employment with the Company is "at-will," which means that either you or the Company may terminate your employment at any time, with or without cause, and with or without advance notice. No provision of this offer letter or the accompanying Confidential Information and Invention Assignment Agreement shall be construed to create an express or implied employment contract, or a promise of employment for any specific period of time.

Authorization to Work. This offer is conditioned upon the following: (1) your presenting sufficient evidence of your authorization to work in the United States and your identity sufficient to allow the Company to complete the Form I-9 required by law; (2) satisfactory completion of a background and reference check; and (3) your signature on the Confidential Information and Invention Agreement. You agree to assist as needed and to complete any documentation at the Company's request to meet these conditions.

Integration, Modification and Governing Law. This letter, together with your Employee Confidential Information and Invention Agreement, forms the complete and exclusive statement of your employment agreement with the Company. It supersedes any other agreements or promises made to you by anyone, whether oral or written. Changes in your employment terms, other than those changes expressly

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reserved to the Company's discretion in this letter, require a written modification signed by an officer of the Company. The unenforceability of any provision of this agreement will not affect the validity or enforceability of any other provision of the agreement. This letter will be governed by the laws of the state of California.

Please contact me at (415) 328-5012 if you have any questions. I'm delighted to welcome you to the Company, and I look forward to your participation in the Company's future success. Please sign below to indicate your acceptance and agreement to the terms set forth in this offer letter and return the signed offer letter to your Human Resources Representative.

This offer will expire at 8 am **May 14, 2019**, unless accepted by you in writing prior to such date.

Best regards,

/s/ Gregory T. Went

Gregory T. Went
Chief Executive Officer
Adamas Pharmaceuticals, Inc.

Enclosures:

- Confidential Information and Inventions Agreement
- Executive Severance Plan

ACCEPTANCE OF EMPLOYMENT OFFER

I, Vijay Shreedhar, have read, understand, and accept employment on the terms and conditions outlined in this letter agreement. I am not relying on any representations made to me by anyone other than as set forth above.

/s/ Vijay Shreedhar

NAME

May 14, 2019

Date

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[*] = Certain confidential information contained in this document, marked by brackets, has been omitted because it is both (i) not material and (ii) would likely be competitively harmful if publicly disclosed.

AMENDMENT NO. 1 TO
AMENDED AND RESTATED COMMERCIAL SUPPLY AGREEMENT
 (Amantadine HCl extended release capsules)

This Amendment No. 1 (this “**Amendment**”) is effective as of June 27, 2019 (“**Amendment Effective Date**”), by and between Adamas Pharma, LLC, a Delaware limited liability company, with a place of business at 1900 Powell St., Suite 1000, Emeryville, CA 94608 (“**Client**”), and Catalent Pharma Solutions, LLC, a Delaware limited liability company, with a place of business at 14 Schoolhouse Road, Somerset, New Jersey 08873, USA (“**Catalent**”).

RECITALS

A. Client and Catalent have entered into an Amended and Restated Commercial Supply Agreement, effective as of February 16, 2017, as amended, and including the Notice of Assignment dated July 20, 2017 (collectively the “**Amended and Restated Agreement**”).

B. The Parties now desire to amend certain terms of the Amended and Restated Agreement pursuant to Section 18.1 of the Amended and Restated Agreement.

NOW THEREFORE, in consideration of the mutual covenants, terms and conditions set forth below, the parties agree as follows:

1. Attachment B: Attachment B shall be revised per the amended Attachment B hereto, which shall be made part hereof, of the Amended and Restated Agreement. More specifically:

- (i) Amantadine HCl Specifications shall be updated.
- (ii) [*] shall be added to the list of Client-Supplied Materials (as such term is defined in Section 1.17 of the Amended and Restated Agreement). Accordingly, it shall be removed from the list of Raw Materials.
- (iii) The list of Raw Materials (and sourcing Party for each) shall be updated.

2. Attachment C: Attachment C shall be revised per the Amended Attachment C hereto, which shall be made part hereof of the Amended and Restated Agreement. More specifically:

- (i) The Commercial Manufacturing Pricing for the [*] shall be revised.
- (ii) Campaign sizes in sections A and B adjusted to align with pricing assumptions.
- (iii) Yield averages for the [*] shall be updated to reflect actual value following process validation. Accordingly, the following sentence shall be deleted:

“Yields will be determined after process validation. This Attachment C will be updated after process validation at [*], based on actual yields from the process.”

(iv) The third line item which reads "Pricing excludes the cost of API" shall be replaced with the following sentence: "Pricing excludes the cost of API and [*]."

(v) The Minimum Requirements shall be revised per the amended Attachment C attached hereto.

[*]

Client additionally agrees to [*] during the term of this Agreement.

3. Contract Year. The definition for "**Contract Year**" will be modified to read as follows:

"**Contract Year**" means a consecutive 12-month period, computed as follows:

(i) For Contract Year 1, starting from the Restatement Effective Date and ending after the 12-month period beginning on the Commencement Date;

(ii) Beginning with Contract Year 2, the 12-month period beginning at the conclusion of Contract Year 1 and ending on the second December 31 thereafter; and,

(iii) Thereafter, each consecutive twelve (12) month period beginning on January 1 and ending on December 31 ("Contract Year 3", "Contract Year 4", etc.).

4. Client Address Change. Client's mailing address set forth in the preamble and in Article 17 of the Amended and Restated Agreement is amended to read as follows:

Adamas Pharmaceuticals, Inc.
1900 Powell Street, Suite 1000
Emeryville, CA 94608

5. Other Terms. Except as expressly amended herein, all other terms and conditions of the Amended and Restated Agreement will remain in full force and effect. In the event of any conflict between this Amendment and the Amended and Restated Agreement, the terms of this Amendment will control.

IN WITNESS WHEREOF, the parties have caused their respective duly authorized representatives to execute this Amendment effective as of the Amendment Effective Date.

CATALENT PHARMA SOLUTIONS, LLC

ADAMAS PHARMA, LLC

By: /s/Michael J. Valazza
Name: Michael J. Valazza
Title: Vice President, Business Development

By: /s/Jennifer Rhodes
Name: Jennifer Rhodes
Title: General Counsel

LIST OF AMENDED ATTACHMENTS

Attachment B: Specifications

- I. Client-supplied Materials (and associated specifications)
- II. Raw Materials (and associated specifications) and Qualified Vendor List
- III. Product Specifications (including Batch size)

Attachment C: Unit Pricing, Fees and Minimum Requirement

ATTACHMENT B

SPECIFICATIONS

I. Client-Supplied Materials (and associated specifications)

II. Raw Materials (and associated specifications and approved vendor lists)

III. Product Specifications

[*] (12 pages omitted)

ATTACHMENT C

UNIT/BATCH PRICING, FEES, AND MINIMUM REQUIREMENT

[*] (6 pages omitted)

CERTIFICATION OF THE CHIEF EXECUTIVE OFFICER
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Gregory T. Went, Ph.D., hereby certify that:

1. I have reviewed this quarterly report on Form 10-Q of Adamas Pharmaceuticals, Inc.;
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 registrant's most recent fiscal quarter (the registrant's fourth 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.
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 registrant's board of directors (or persons performing the equivalent functions):
 - a) all significant deficiencies and material weakness 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 8, 2019

/s/ Gregory T. Went, Ph.D.

Gregory T. Went, Ph.D.

Chief Executive Officer

(Principal Executive Officer)

CERTIFICATION OF THE CHIEF FINANCIAL OFFICER
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Alfred G. Merriweather, hereby certify that:

1. I have reviewed this quarterly report on Form 10-Q of Adamas Pharmaceuticals, Inc.;
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 registrant's most recent fiscal quarter (the registrant's fourth 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.
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 registrant's board of directors (or persons performing the equivalent functions):
 - a) all significant deficiencies and material weakness 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 8, 2019

/s/ Alfred G. Merriweather

Alfred G. Merriweather
Chief Financial Officer
(Principal Financial Officer)

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

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), Gregory T. Went, Ph.D., Chief Executive Officer of Adamas Pharmaceuticals, Inc. (the "Company"), and Alfred G. Merriweather, Chief Financial Officer of the Company, each hereby certifies that, to the best of his knowledge:

1. The Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, to which this Certification is attached as Exhibit 32.1 (the "Periodic Report"), fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and
2. The information contained in the Periodic Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

IN WITNESS WHEREOF, the undersigned have set their hands hereto as of the 8th day of August, 2019.

/s/ Gregory T. Went, Ph.D.

Gregory T. Went, Ph.D.

Chief Executive Officer

(Principal Executive Officer)

/s/ Alfred G. Merriweather

Alfred G. Merriweather

Chief Financial Officer

(Principal Financial Officer)

This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Registrant under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.