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

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2020

or

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

For the transition period from to

Commission file number 001-10865

AMAG Pharmaceuticals, Inc.
(Exact Name of Registrant as Specified in Its Charter)

Delaware	**04-2742593**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
1100 Winter Street, Waltham, Massachusetts	**02451**
(Address of Principal Executive Offices)	(Zip Code)

(617) 498-3300
(Registrant's Telephone Number, Including Area Code)

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

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common Stock, par value $0.01 per share	AMAG	NASDAQ Global Select Market

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

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

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

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

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

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

As of August 12, 2020, there were 34,479,646 shares of the registrant's Common Stock, par value $0.01 per share, outstanding.

AMAG PHARMACEUTICALS, INC.
FORM 10-Q
FOR THE QUARTER ENDED JUNE 30, 2020
TABLE OF CONTENTS

PART I. FINANCIAL INFORMATION
Item 1. Financial Statements:

AMAG PHARMACEUTICALS, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)
(Unaudited)

	June 30, 2020	December 31, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 98,521	$ 113,009
Marketable securities	48,594	58,742
Accounts receivable, net	65,104	94,163
Inventories	30,388	31,553
Prepaid and other current assets	20,950	19,100
Total current assets	263,557	316,567
Property and equipment, net	3,031	4,116
Goodwill	422,513	422,513
Intangible assets, net	3,946	23,620
Operating lease right-of-use asset	22,007	23,286
Deferred tax assets	—	630
Restricted cash	495	495
Total assets	$ 715,549	$ 791,227
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 12,944	$ 27,021
Accrued expenses	144,567	183,382
Current portion of operating lease liability	3,488	4,077
Current portion of acquisition-related contingent consideration	—	17
Total current liabilities	160,999	214,497
Long-term liabilities:		
Convertible notes, net	285,137	277,034
Long-term operating lease liability	19,263	19,791
Other long-term liabilities	828	89
Total liabilities	466,227	511,411
Commitments and contingencies (Note O)		
Stockholders' equity:		
Preferred stock, par value $0.01 per share, 2,000,000 shares authorized; none issued	—	—
Common stock, par value $0.01 per share, 117,500,000 shares authorized; 34,463,373 and 33,999,081 shares issued and outstanding at June 30, 2020 and December 31, 2019, respectively	344	339
Additional paid-in capital	1,303,095	1,297,917
Accumulated other comprehensive loss	(2,964)	(3,239)
Accumulated deficit	(1,051,153)	(1,015,201)
Total stockholders' equity	249,322	279,816
Total liabilities and stockholders' equity	$ 715,549	$ 791,227

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

AMAG PHARMACEUTICALS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(IN THOUSANDS, EXCEPT PER SHARE DATA)
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Revenues:				
Product sales, net	$ 52,729	$ 77,634	$ 123,142	$ 153,047
Other revenues	26	133	58	208
Total revenues	52,755	77,767	123,200	153,255
Costs and expenses:				
Cost of product sales	18,180	24,290	42,539	42,767
Research and development expenses	8,263	14,980	19,443	33,046
Acquired in-process research and development	—	—	—	74,856
Selling, general and administrative expenses	39,568	77,324	92,266	152,006
Impairment of intangible assets	—	77,358	—	77,358
Gain on sale of assets	(14,444)	—	(14,444)	—
Restructuring expenses	8,197	—	8,197	7,420
Total costs and expenses	59,764	193,952	148,001	387,453
Operating loss	(7,009)	(116,185)	(24,801)	(234,198)
Other income (expense):				
Interest expense	(6,700)	(6,330)	(13,303)	(12,780)
Interest and dividend income	327	1,224	804	2,810
Other income (expense)	(22)	2	1,288	342
Total other expense, net	(6,395)	(5,104)	(11,211)	(9,628)
Loss before income taxes	(13,404)	(121,289)	(36,012)	(243,826)
Income tax benefit	(160)	(120)	(60)	(257)
Net loss	$ (13,244)	$ (121,169)	$ (35,952)	$ (243,569)
Basic and diluted net loss per share	$ (0.39)	$ (3.58)	$ (1.05)	$ (7.14)
Weighted average shares outstanding used to compute net loss per share (basic and diluted)	34,353	33,807	34,228	34,136

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

AMAG PHARMACEUTICALS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(IN THOUSANDS)
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Net loss	$ (13,244)	$ (121,169)	$ (35,952)	$ (243,569)
Other comprehensive loss:				
Holding (losses) gains associated with marketable securities arising during period, net of tax	823	344	275	953
Total comprehensive loss	$ (12,421)	$ (120,825)	$ (35,677)	$ (242,616)

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

AMAG PHARMACEUTICALS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(IN THOUSANDS, EXCEPT SHARES)
(Unaudited)

	Common Stock					
	Shares	Amount	Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
Balance at April 1, 2020	34,266,256	$ 342	$ 1,300,572	$ (3,787)	$ (1,037,909)	$ 259,218
Net shares issued in connection with the exercise of stock options and vesting of restricted stock units, net of withholdings	100,915	1	(117)	—	—	(116)
Issuance of common stock under employee stock purchase plan	96,202	1	630	—	—	631
Non-cash equity based compensation	—	—	2,010	—	—	2,010
Unrealized losses on securities, net of tax	—	—	—	823	—	823
Net loss	—	—	—	—	(13,244)	(13,244)
Balance at June 30, 2020	34,463,373	$ 344	$ 1,303,095	$ (2,964)	$ (1,051,153)	$ 249,322

	Common Stock					
	Shares	Amount	Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
Balance at January 1, 2020	33,999,081	$ 339	$ 1,297,917	$ (3,239)	$ (1,015,201)	$ 279,816
Net shares issued in connection with the exercise of stock options and vesting of restricted stock units, net of withholdings	368,090	4	(1,331)	—	—	(1,327)
Issuance of common stock under employee stock purchase plan	96,202	1	630	—	—	631
Non-cash equity based compensation	—	—	5,879	—	—	5,879
Unrealized losses on securities, net of tax	—	—	—	275	—	275
Net loss	—	—	—	—	(35,952)	(35,952)
Balance at June 30, 2020	34,463,373	$ 344	$ 1,303,095	$ (2,964)	$ (1,051,153)	$ 249,322

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

AMAG PHARMACEUTICALS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(IN THOUSANDS, EXCEPT SHARES)
(Unaudited)

	Common Stock					
	Shares	Amount	Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
Balance at April 1, 2019	33,746,828	$ 337	$ 1,282,284	$ (3,376)	$ (669,940)	$ 609,305
Net shares issued in connection with the exercise of stock options and vesting of restricted stock units, net of withholdings	48,051	1	(115)	—	—	(114)
Issuance of common stock under employee stock purchase plan	105,075	1	850	—	—	851
Non-cash equity based compensation	—	—	4,534	—	—	4,534
Unrealized gains on securities, net of tax	—	—	—	344	—	344
Net loss	—	—	—	—	(121,169)	(121,169)
Balance at June 30, 2019	33,899,954	$ 339	$ 1,287,553	$ (3,032)	$ (791,109)	$ 493,751

	Common Stock					
	Shares	Amount	Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
Balance at January 1, 2019	34,606,760	$ 346	$ 1,292,736	$ (3,985)	$ (547,540)	$ 741,557
Net shares issued in connection with the exercise of stock options and vesting of restricted stock units, net of withholdings	262,919	3	(1,721)	—	—	(1,718)
Issuance of common stock under employee stock purchase plan	105,075	1	850	—	—	851
Repurchase of common stock pursuant to the share repurchase program	(1,074,800)	(11)	(13,719)	—	—	(13,730)
Non-cash equity based compensation	—	—	9,407	—	—	9,407
Unrealized gains on securities, net of tax	—	—	—	953	—	953
Net loss	—	—	—	—	(243,569)	(243,569)
Balance at June 30, 2019	33,899,954	$ 339	$ 1,287,553	$ (3,032)	$ (791,109)	$ 493,751

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

AMAG PHARMACEUTICALS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(IN THOUSANDS)
(Unaudited)

	Six Months Ended June 30,	
	2020	**2019**
Cash flows from operating activities:		
Net loss	$ (35,952)	$ (243,569)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	19,791	9,089
Impairment of intangible assets	—	77,358
Provision for bad debt expense	230	(12)
Amortization of premium/discount on purchased securities	42	(51)
Write-down of inventory	616	4,836
(Gain)/loss on disposal of property & equipment	230	—
Non-cash equity-based compensation expense	5,879	9,407
Non-cash IPR&D expense	—	18,029
Amortization of debt discount and debt issuance costs	8,103	7,513
Gains on marketable securities, net	(10)	(270)
Change in fair value of contingent consideration	—	(21)
Deferred income taxes	630	630
Non-cash lease expense	1,279	—
Gain on sale of assets	(15,853)	—
Changes in operating assets and liabilities:		
Accounts receivable, net	28,828	(7,825)
Inventories	(872)	(3,323)
Prepaid and other current assets	(1,790)	(5,562)
Accounts payable and accrued expenses	(54,216)	36,137
Deferred revenues	—	(101)
Other assets and liabilities	(377)	1,283
Net cash used in operating activities	(43,442)	(96,452)
Cash flows from investing activities:		
Proceeds from sales or maturities of marketable securities	33,735	46,420
Purchase of marketable securities	(23,345)	(14,815)
Net proceeds from the sale of assets	19,344	—
Capital expenditures	(68)	(1,907)
Net cash provided by investing activities	29,666	29,698
Cash flows from financing activities:		
Payments to settle convertible notes	—	(21,417)
Payments of contingent consideration	(17)	(27)
Payments for repurchases of common stock	—	(13,730)
Proceeds from the issuance of common stock under the ESPP	631	851
Proceeds from the exercise of common stock options	—	30
Payments of employee tax withholding related to equity-based compensation	(1,326)	(1,748)
Net cash used in financing activities	(712)	(36,041)
Net decrease in cash, cash equivalents, and restricted cash	(14,488)	(102,795)
Cash, cash equivalents, and restricted cash at beginning of the period	113,504	253,751
Cash, cash equivalents, and restricted cash at end of the period	$ 99,016	$ 150,956
Supplemental data for cash flow information:		
Cash (refunded) paid for taxes	$ (256)	$ 433
Cash paid for interest	$ 5,200	$ 5,467
Non-cash investing and financing activities:		
Milestone payment accrued for FDA approval of Vyleesi	$ —	$ 60,000
Settlement of note receivable in connection with Perosphere acquisition	$ —	$ 10,000
Right-of-use assets obtained in exchange for lease liabilities	$ —	$ 918

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

AMAG PHARMACEUTICALS, INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

A. DESCRIPTION OF BUSINESS

AMAG Pharmaceuticals, Inc., a Delaware corporation, was founded in 1981. We are a pharmaceutical company focused on bringing innovative products to patients with unmet medical needs by leveraging our development and commercial expertise to invest in and grow our pharmaceutical products and product candidates across a range of therapeutic areas. As of June 30, 2020, we marketed products that support the health of patients in the areas of hematology and maternal and women's health, including Feraheme® (ferumoxytol injection) for intravenous use, Makena® (hydroxyprogesterone caproate injection) auto-injector and Vyleesi® (bremelanotide injection). In addition to our approved products, our portfolio includes two product candidates, ciraparantag, which is being studied as an anticoagulant reversal agent and AMAG-423 (digoxin immune fab (ovine)), which is being studied for the treatment of severe preeclampsia (although we have suspended research and development efforts as discussed elsewhere in this report).

In December 2019, we completed a review of our product portfolio and strategy. This strategic review resulted in our intention to divest Intrarosa® (prasterone) and Vyleesi® (bremelanotide injection), as announced in January 2020. In May 2020, we completed the divestiture of Intrarosa, resulting in a gain on sale of $14.4 million recognized during the three and six months ended June 30, 2020. We determined that the divestiture of Intrarosa did not meet the criteria for presentation as a discontinued operation, as it did not represent a strategic shift to our business as described above. Additionally, we determined that the anticipated divestiture of Vyleesi did not result in the related assets meeting the criteria to be recorded as held for sale at June 30, 2020.

In July 2020, we completed the divestiture of Vyleesi and decided to stop the AMAG-423 Phase 2b/3a study based, primarily, on the results of an interim analysis conducted by the study's independent Data Safety Monitoring Board ("DSMB"). Refer to Note U, *"Subsequent Events"* for further detail.

Throughout this Quarterly Report on Form 10-Q, AMAG Pharmaceuticals, Inc. and our consolidated subsidiaries are collectively referred to as "the Company," "AMAG," "we," "us," or "our."

COVID-19

The global spread of COVID-19 has created significant volatility, uncertainty and economic disruption on a global scale, including in the United States, where we market our products, where our operations and employees reside and where we conduct clinical trials, as well as in Europe and other countries where we have been conducting our AMAG-423 Phase 2b/3a study. The COVID-19 pandemic negatively impacted our financial results during the three months ended June 30, 2020 and is expected to continue to negatively impact our financial results in future periods in 2020. The extent to which the COVID-19 pandemic impacts our business, operations and financial results will depend on numerous evolving factors that we may not be able to accurately predict. While there have been no material impairments to date, any prolonged material disruptions to our sales, supply, research and development efforts and/or operations could negatively impact the Company's business, operations and/or financial results.

B. BASIS OF PRESENTATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

These condensed consolidated financial statements are unaudited and, in the opinion of management, include all adjustments necessary for a fair statement of our financial position and results of operations for the interim periods presented. Such adjustments consisted only of normal recurring items. The year-end condensed consolidated balance sheet data was derived from audited financial statements, but does not include all disclosures required by accounting principles generally accepted in the United States of America ("GAAP").

In accordance with GAAP for interim financial reports and the instructions for Form 10-Q and the rules of the Securities and Exchange Commission, certain information and footnote disclosures normally included in annual financial statements have been condensed or omitted. Our accounting policies are described in the Notes to the Consolidated Financial Statements in our Annual Report on Form 10-K for the year ended December 31, 2019 (our "Annual Report"). Interim results are not necessarily indicative of the results of operations for the full year. These interim financial statements should be read in conjunction with our Annual Report.

Principles of Consolidation

The accompanying condensed consolidated financial statements include our accounts and the accounts of our wholly-owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates and Assumptions

The preparation of our condensed consolidated financial statements in conformity with GAAP requires us to make estimates, judgments and assumptions that may affect the reported amounts of assets, liabilities, revenues and expenses, and the related disclosure of contingent liabilities. We base our estimates on historical experience and on various other assumptions that we believe are reasonable, the results of which form the basis for making judgments about the carrying values of assets, liabilities, equity and the amount of revenues and expenses. The full extent to which the COVID-19 pandemic will directly or indirectly impact our business, results of operations and financial condition, including product sales revenue; product sales allowances and accruals; allowance for expected credit losses; marketable securities; inventory; fair value estimates used to assess impairment of long-lived assets, including goodwill and other intangible assets; debt obligations; certain accrued liabilities, including clinical trial accruals; equity-based compensation expense; and income taxes, inclusive of valuation allowances, will depend on future developments that are highly uncertain, including new information that may emerge concerning COVID-19 and the actions taken to contain or treat its impact, as well as the economic impact on local, regional and national customers and markets. We have made estimates of the impact of COVID-19 within our financial statements and there may be changes to those estimates in future periods. Actual results could differ materially from these estimates.

Concentrations and Significant Customer Information

Financial instruments which potentially subject us to concentrations of credit risk consist principally of cash and cash equivalents, marketable securities, and accounts receivable. We currently hold our excess cash primarily in institutional money market funds, corporate debt securities, U.S. treasury and government agency securities and certificates of deposit. As of June 30, 2020, we did not have a material concentration in any single investment.

Our operations are located entirely within the U.S. We focus primarily on developing, manufacturing, and commercializing our products and product candidates. The following table sets forth customers who represented 10% or more of our total revenues for the three and six months ended June 30, 2020 and 2019:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
McKesson Corporation	31 %	35 %	36 %	36 %
AmerisourceBergen Drug Corporation	37 %	28 %	33 %	27 %
Cardinal Health	<10%	11 %	11 %	12 %

Our net accounts receivable primarily represent amounts due for products sold directly to wholesalers, distributors and specialty pharmacies. Accounts receivable for our products are recorded net of reserves for estimated chargeback obligations, prompt payment discounts and any allowance for expected credit losses. At June 30, 2020 and December 31, 2019, three customers accounted for 10% or more of our accounts receivable balances, representing approximately 84% and 85% in the aggregate of our total accounts receivable, respectively.

We are currently dependent on a single supplier for certain of our manufacturing processes, including for Feraheme drug substance (produced in two separate facilities) and for our Makena auto-injector product. We have been and may continue to be exposed to a significant loss of revenue from the sale of our products in the event that our suppliers and/or manufacturers are not able to fulfill demand for any reason.

Recently Adopted Accounting Pronouncements

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* ("Topic 326"). We adopted Topic 326 effective January 1, 2020 using a modified retrospective approach. The adoption of Topic 326 did not have a material impact on our condensed consolidated financial statements and accordingly, no transition adjustment was recorded at the adoption date. Under Topic 326, we estimate expected credit losses for our trade receivables held at the reporting date based on historical experience, current conditions and reasonable and supportable forecasts. We also evaluate any impaired marketable securities against the new impairment model within Topic 326 to determine whether any loss or allowance for credit loss should be recorded at the reporting date.

In December 2019, the FASB issued ASU No. 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes* ("ASU 2019-12") as part of its Simplification Initiative to reduce the cost and complexity in accounting for income taxes. ASU 2019-12 removes certain exceptions related to the approach for intraperiod tax allocation, the methodology for calculating income taxes in an interim period and the recognition of deferred tax liabilities for outside basis differences. ASU 2019-12 also amends other aspects of the guidance to help simplify and promote consistent application of GAAP. The guidance is effective for interim and annual periods beginning after December 15, 2020, with early adoption permitted. We adopted ASU 2019-12 effective January 1, 2020. The adoption of ASU 2019-12 did not have a material impact on our condensed consolidated financial statements.

Immaterial Revision of Prior Period Financial Information

Prior period amounts, specifically net product sales and accrued expenses have been revised to correct a prior period error related to gross-to-net ("GTN") adjustments for governmental rebates and the related accrual for a certain state program. Refer to Note S, *"Revision of Prior Period Financial Statements"* for further detail.

C. REVENUE RECOGNITION

Product Revenue and Allowances and Accruals

The following table provides information about disaggregated revenue by product for the three and six months ended June 30, 2020 and 2019 (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Product sales, net				
Feraheme	$ 29,635	$ 42,074	$ 74,068	$ 82,089
Makena	22,325	30,593	45,888	61,534
Intrarosa	1,216	4,877	4,385	9,291
Other	(447)	90	(1,199)	133
Total product sales, net	$ 52,729	$ 77,634	$ 123,142	$ 153,047

Total gross product sales were offset by product sales allowances and accruals for the three and six months ended June 30, 2020 and 2019 as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Gross product sales	$ 181,995	$ 239,185	$ 414,735	$ 450,904
Provision for product sales allowances and accruals:				
Contractual adjustments	109,861	128,641	253,036	237,526
Governmental rebates	19,405	32,910	38,557	60,331
Total	129,266	161,551	291,593	297,857
Product sales, net	$ 52,729	$ 77,634	$ 123,142	$ 153,047

The following table summarizes the product revenue allowance and accrual activity for the three and six months ended June 30, 2020 (in thousands):

	Contractual Adjustments	Governmental Rebates	Total
Balance at December 31, 2019	$ 95,221	$ 47,623	$ 142,844
Provisions related to current period sales	147,235	18,175	165,410
Adjustments related to prior period sales	(4,060)	976	(3,084)
Payments/returns relating to current period sales	(95,284)	—	(95,284)
Payments/returns relating to prior period sales	(37,969)	(29,646)	(67,615)
Balance at March 31, 2020	$ 105,143	$ 37,128	$ 142,271
Provisions related to current period sales	111,508	19,041	130,549
Adjustments related to prior period sales	(634)	378	(256)
Payments/returns relating to current period sales	(112,821)	(13,913)	(126,734)
Payments/returns relating to prior period sales	(19,484)	(10,240)	(29,724)
Balance at June 30, 2020	$ 83,712	$ 32,394	$ 116,106

D. MARKETABLE SECURITIES

As of June 30, 2020 and December 31, 2019, our marketable securities consisted of securities classified as available-for-sale in accordance with accounting standards which provide guidance related to accounting and classification of certain investments in marketable securities.

The following is a summary of our marketable securities as of June 30, 2020 and December 31, 2019 (in thousands):

	June 30, 2020			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Securities maturing within one year:				
Corporate debt securities	$ 26,430	$ 170	$ —	$ 26,600
Certificates of deposit	3,300	—	—	3,300
Commercial paper	1,000	—	—	1,000
Total securities maturing within one year	$ 30,730	$ 170	$ —	$ 30,900
Securities maturing between one and three years:				
Corporate debt securities	$ 16,299	$ 395	$ —	$ 16,694
Certificates of deposit	1,000	—	—	1,000
Total securities maturing between one and three years	$ 17,299	$ 395	$ —	$ 17,694
Total marketable securities	$ 48,029	$ 565	$ —	$ 48,594

	December 31, 2019			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Securities maturing within one year:				
Corporate debt securities	$ 46,186	$ 140	$ (2)	$ 46,324
U.S. treasury and government agency securities	2,750	—	—	2,750
Certificates of deposit	1,500	—	—	1,500
Total securities maturing within one year	$ 50,436	$ 140	$ (2)	$ 50,574
Securities maturing between one and three years:				
Corporate debt securities	$ 8,016	$ 152	$ —	$ 8,168
Total securities maturing between one and three years	8,016	152	—	8,168
Total marketable securities	$ 58,452	$ 292	$ (2)	$ 58,742

E. FAIR VALUE MEASUREMENTS

The following tables present information about our assets and liabilities that we measure at fair value on a recurring basis and indicate the level within the fair value hierarchy of the valuation techniques utilized to determine such fair value as of June 30, 2020 and December 31, 2019 (in thousands):

	Fair Value Measurements at June 30, 2020 Using:			
	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Cash equivalents	$ 24,934	$ 24,934	$ —	$ —
Corporate debt securities	43,294	—	43,294	—
Certificates of deposit	4,300	—	4,300	—
Commercial paper	1,000	—	1,000	—
Total assets	$ 73,528	$ 24,934	$ 48,594	$ —

	Fair Value Measurements at December 31, 2019 Using:			
	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Cash equivalents	$ 13,732	$ 13,732	$ —	$ —
Corporate debt securities	54,492	—	54,492	—
U.S. treasury and government agency securities	2,750	—	2,750	—
Certificates of deposit	1,500	—	1,500	—
Total assets	$ 72,474	$ 13,732	$ 58,742	$ —
Liabilities:				
Contingent consideration - MuGard	$ 17	$ —	$ —	$ 17
Total liabilities	$ 17	$ —	$ —	$ 17

Cash Equivalents

Our cash equivalents are classified as Level 1 assets under the fair value hierarchy as these assets have been valued using quoted market prices in active markets and do not have any restrictions on redemption. As of June 30, 2020 and December 31, 2019, cash equivalents were primarily comprised of funds in money market accounts.

Marketable Securities

Our marketable securities are classified as Level 2 assets under the fair value hierarchy as the values of these assets are primarily determined from independent pricing services, which normally derive security prices from recently reported trades for identical or similar securities, making adjustments based upon other significant observable market transactions. At the end of each reporting period, we perform a quantitative and qualitative analysis of prices received from third parties to determine whether prices are reasonable estimates of fair value. After completing our analysis, we did not adjust or override any fair value measurements provided by our pricing services as of June 30, 2020. In addition, there were no transfers or reclassifications of any securities between Level 1 and Level 2 during the six months ended June 30, 2020.

Debt

We estimate the fair value of our debt obligations using quoted market prices obtained from third-party pricing services, which are classified as Level 2 inputs. As of June 30, 2020, the estimated fair value of our 2022 Convertible Notes (as defined below) was $253.2 million, which differed from its carrying value. See Note Q, "*Debt*" for additional information on our debt obligations.

F. INVENTORIES

Our major classes of inventories were as follows as of June 30, 2020 and December 31, 2019 (in thousands):

	June 30, 2020	December 31, 2019
Raw materials	$ 8,270	$ 5,211
Work in process	6,999	6,248
Finished goods	15,119	20,094
Total inventories	$ 30,388	$ 31,553

G. PROPERTY AND EQUIPMENT, NET

Property and equipment, net consisted of the following as of June 30, 2020 and December 31, 2019 (in thousands):

	June 30, 2020	December 31, 2019
Computer equipment and software	$ 1,568	$ 1,568
Furniture and fixtures	1,714	1,714
Leasehold improvements	4,985	4,984
Laboratory and production equipment	6,278	6,570
Construction in progress	467	656
	15,012	15,492
Less: accumulated depreciation	(11,981)	(11,376)
Property and equipment, net	$ 3,031	$ 4,116

H. GOODWILL AND INTANGIBLE ASSETS, NET

Goodwill

As of June 30, 2020, we had no accumulated impairment losses related to goodwill.

Intangible Assets

As of June 30, 2020 and December 31, 2019, our intangible assets consisted of the following (in thousands):

	June 30, 2020				December 31, 2019			
	Cost	Accumulated Amortization	Cumulative Impairments	Net	Cost	Accumulated Amortization	Cumulative Impairments	Net
Amortizable intangible assets:								
Makena auto-injector developed technology	$ 79,100	$ 19,728	$ 55,426	$ 3,946	$ 79,100	$ 15,782	$ 55,426	$ 7,892
Intrarosa developed technology	—	—	—	—	77,655	16,798	56,881	3,976
Vyleesi developed technology	60,000	21,016	38,984	—	60,000	9,264	38,984	11,752
Total intangible assets	$ 139,100	$ 40,744	$ 94,410	$ 3,946	$ 216,755	$ 41,844	$ 151,291	$ 23,620

In May 2020, we sold all of our rights to Intrarosa and accordingly, wrote off the related developed technology intangible asset.

As of June 30, 2020, the weighted average remaining amortization period for our finite-lived intangible assets was less than one year. Total amortization expense for the six months ended June 30, 2020 and 2019 was $18.8 million and $7.9 million, respectively. Amortization expense is recorded in cost of product sales on our condensed consolidated statements of operations. We expect our finite-lived intangible assets to be fully amortized in 2020.

I. CURRENT LIABILITIES

Accrued expenses consisted of the following as of June 30, 2020 and December 31, 2019 (in thousands):

	June 30, 2020	December 31, 2019
Commercial rebates, fees and returns	$ 101,116	$ 124,730
Manufacturing costs	11,725	21,364
Salaries, bonuses, and other compensation	15,960	18,693
Professional, license, and other fees and expenses	6,598	13,392
Research and development expense	2,386	3,539
Interest expense	867	867
Restructuring expense	5,915	797
Total accrued expenses	$ 144,567	$ 183,382

J. INCOME TAXES

The following table summarizes our effective tax rate and income tax benefit for the three and six months ended June 30, 2020 and 2019 (in thousands except for percentages):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Effective tax rate	1 %	— %	— %	— %
Income tax benefit	$ (160)	$ (120)	$ (60)	$ (257)

For the three and six months ended June 30, 2020, we recognized an immaterial income tax benefit, representing an effective tax rate of 1% and 0%, respectively. The difference between the statutory federal tax rate of 21% and the effective tax rates for the three and six months ended June 30, 2020, was primarily attributable to the valuation allowance established against our current period losses generated. We have established a valuation allowance on our deferred tax assets to the extent that our existing taxable temporary differences would not be available as a source of income to realize the benefits of those deferred tax assets. The income tax benefit for the three and six months ended June 30, 2020 primarily related to state income taxes.

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security (“CARES”) Act was signed into law making several changes to the Internal Revenue Code. The changes include, but are not limited to, temporarily increasing the limitation on the amount of deductible interest expense, allowing taxpayers with alternative minimum tax credits to claim a refund for the entire amount of the credit instead of recovering the credit through refunds over a period of years, as required by the 2017 Tax Cuts and Jobs Act, allowing companies to carryback certain net operating losses, and temporarily increasing the amount of net operating loss carryforwards that corporations can use to offset taxable income. The tax law changes in the CARES Act did not have a material impact on our income tax provision.

For the three and six months ended June 30, 2019, we recognized an immaterial income tax benefit, representing an effective tax rate of 0%. The income tax benefit for the three and six months ended June 30, 2019 primarily related to the offset of the recognition of the income tax expense recorded in other comprehensive loss associated with the increase in the fair value of the available-for-sale debt securities that we carried at fair market value during the period. The difference between the statutory federal tax rate of 21% and the effective tax rate of 0% for the three and six months ended June 30, 2019 was primarily attributable to the valuation allowance established against our current period losses generated and the non-deductible IPR&D expense related to the Perosphere acquisition.

K. ACCUMULATED OTHER COMPREHENSIVE LOSS

The following table summarizes the changes in the accumulated balances of other comprehensive loss during the three and six months ended June 30, 2020 and 2019 (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Beginning balance	$ (3,787)	$ (3,376)	$ (3,239)	$ (3,985)
Holding (losses) gains associated with marketable securities arising during period, net of tax	823	344	275	953
Ending balance	$ (2,964)	$ (3,032)	$ (2,964)	$ (3,032)

L. EARNINGS PER SHARE

The components of basic and diluted earnings per share for the three and six months ended June 30, 2020 and 2019 were as follows (in thousands, except per share data):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Net loss	$ (13,244)	$ (121,169)	$ (35,952)	$ (243,569)
Weighted average common shares outstanding	34,353	33,807	34,228	34,136
Basic and diluted net loss per share	$ (0.39)	$ (3.58)	$ (1.05)	$ (7.14)

The following table sets forth the potential common shares issuable upon the exercise of outstanding options, the vesting of restricted stock units ("RSUs"), and the conversion of the 2022 Convertible Notes, which were excluded from our computation of diluted net loss per share because their inclusion would have been anti-dilutive (in thousands):

	Six Months Ended June 30,	
	2020	2019
Options to purchase shares of common stock	4,674	3,926
Shares of common stock issuable upon the vesting of RSUs	1,141	1,621
2022 Convertible Notes	11,695	11,695
Total	17,510	17,242

M. EQUITY-BASED COMPENSATION

We currently maintain three equity compensation plans; our 2019 Equity Incentive Plan (the "2019 Plan"), which was approved by our stockholders at our 2019 annual meeting and replaced our Fourth Amended and Restated 2007 Equity Incentive Plan (the "2007 Plan"), the Lumara Health Inc. Amended and Restated 2013 Incentive Compensation Plan (the "Lumara Health 2013 Plan") and our 2015 Employee Stock Purchase Plan ("2015 ESPP"). All outstanding stock options granted under each of our equity compensation plans other than our 2015 ESPP have an exercise price equal to the closing price of a share of our common stock on the grant date.

During 2020, we also granted equity through inducement grants outside of our equity compensation plans to certain employees to induce them to accept employment with us (collectively, "Inducement Grants"). The options were granted at an exercise price equal to the fair market value of a share of our common stock on the respective grant dates and will become exercisable in four equal annual installments beginning on the first anniversary of the respective grant dates. The foregoing grants were made pursuant to inducement grants outside of our stockholder approved equity plans as permitted under the NASDAQ Stock Market listing rules. We assessed the terms of these awards and determined there was no possibility that we would have to settle these awards in cash and therefore, equity accounting was applied.

Stock Options

The following table summarizes stock option activity for the six months ended June 30, 2020:

	2019 Plan	2007 Plan	Lumara Health 2013 Plan	Inducement Grants	Total
Outstanding at December 31, 2019	472,412	2,585,466	131,775	696,164	3,885,817
Granted	420,912	—	—	1,000,000	1,420,912
Exercised	—	—	—	—	—
Expired or terminated	(95,650)	(415,876)	(21,475)	(99,598)	(632,599)
Outstanding at June 30, 2020	797,674	2,169,590	110,300	1,596,566	4,674,130

Restricted Stock Units

The following table summarizes RSU activity for the six months ended June 30, 2020:

	2019 Plan	2007 Plan	Lumara Health 2013 Plan	Inducement Grants	Total
Outstanding at December 31, 2019	128,742	1,407,305	2,167	41,223	1,579,437
Granted	736,831	—	—	—	736,831
Vested	(67,526)	(448,217)	(899)	(5,530)	(522,172)
Expired or terminated	(148,746)	(500,987)	(534)	(3,001)	(653,268)
Outstanding at June 30, 2020	649,301	458,101	734	32,692	1,140,828

Equity-Based Compensation Expense

Equity-based compensation expense for the three and six months ended June 30, 2020 and 2019 consisted of the following (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Cost of product sales	$ 104	$ 198	$ 307	$ 401
Research and development	(48)	680	23	1,360
Selling, general and administrative	2,037	3,656	5,549	6,981
Total equity-based compensation expense	2,093	4,534	5,879	8,742
Income tax effect	—	—	—	—
After-tax effect of equity-based compensation expense	$ 2,093	$ 4,534	$ 5,879	$ 8,742

In addition to the equity-based compensation expense presented in the table above, we incurred $0.7 million of equity-based compensation expense related to restructuring activities during the first quarter of 2019 (as discussed further in Note R, below), which is classified within restructuring expense on our condensed consolidated statements of operations for the six months ended June 30, 2019.

N. STOCKHOLDERS' EQUITY

As of January 1, 2020, we had $26.8 million available under the share repurchase program initially approved by our Board of Directors in January 2016, which was updated in March 2019 to permit the repurchase of up to an aggregate of $80.0 million in shares of our common stock. During the six months ended June 30, 2020, we did not repurchase shares of common stock under this program. As of June 30, 2020, $26.8 million remains available for future repurchases under this program.

O. COMMITMENTS AND CONTINGENCIES

Commitments

Our long-term contractual obligations include commitments and estimated purchase obligations entered into in the normal course of business. These include commitments related to our facility and vehicle leases, purchases of inventory, debt obligations, and other purchase obligations.

Operating Lease Obligations

As of June 30, 2020, we had operating lease liabilities of $22.8 million and related right-of-use assets of $22.0 million related to operating leases for real estate, including our corporate headquarters, vehicles and office equipment. As of June 30, 2020, our leases have remaining terms of one to eight years. The weighted average remaining lease term and discount rate for our operating leases was 7.5 years and 5.1% at June 30, 2020, respectively.

Lease costs for our operating leases were $1.3 million and $2.6 million for the three and six months ended June 30, 2020, respectively and $1.4 million and $2.5 million for the three and six months ended June 30, 2019, respectively. Operating cash outflows for operating leases were $2.5 million and $2.7 million for the six months ended June 30, 2020 and 2019, respectively.

Future minimum payments under our non-cancelable operating leases as of June 30, 2020 are as follows (in thousands):

Period		Future Minimum Lease Payments
Remainder of Year Ending December 31, 2020	$	1,985
Year Ending December 31, 2021		3,352
Year Ending December 31, 2022		3,925
Year Ending December 31, 2023		3,278
Year Ending December 31, 2024		3,246
Thereafter		12,192
Total	$	27,978
Less: Interest		5,227
Operating lease liability	$	22,751

Purchase Obligations

Purchase obligations primarily represent minimum purchase commitments for inventory. As of June 30, 2020, our minimum purchase commitments totaled $160.0 million. Please refer to Note U, "*Subsequent Events*", for details of transactions that relate to the subsequent reduction of these minimum purchase commitments.

Contingent Regulatory and Commercial Milestone Payments

We are required to make payments contingent on the achievement of certain regulatory and/or commercial milestones under the terms of our collaboration, license and other strategic agreements. Please refer to Note P, "*Acquisitions, Collaboration, License and Other Strategic Agreements*" for additional details regarding these contingent payments.

Contingencies

Legal Proceedings

We accrue a liability for legal contingencies when we believe that it is both probable that a liability has been incurred and that we can reasonably estimate the amount of the loss. We review these accruals and adjust them to reflect ongoing negotiations, settlements, rulings, advice of legal counsel and other relevant information. To the extent new information is obtained and our views on the probable outcomes of claims, suits, assessments, investigations or legal proceedings change, changes in our accrued liabilities would be recorded in the period in which such determination is made. For certain matters referenced below, the liability is not probable or the amount cannot be reasonably estimated and, therefore, accruals have not been made. In addition, in accordance with the relevant authoritative guidance, for any matters in which the likelihood of material loss is at least reasonably possible, we will provide disclosure of the possible loss or range of loss. If a reasonable estimate cannot be made, however, we will provide disclosure to that effect. We expense legal costs as they are incurred.

On June 5, 2020, Carrie Winchester and Matt Winchester filed a complaint against a list of defendants for claimed exposures to asbestos. AMAG Pharma USA, Inc. d/b/a Lumara Health Inc. was named as a defendant because Nesher Pharmaceuticals, Inc., a susidiary of K-V Pharmaceutical Company ("KV") (Lumara Health's predecessor company), sold Nystatin powder that Ms. Winchester claims she may have used during her employment as a medical professional. We acquired Lumara Health in November 2014, a year after KV emerged from bankruptcy protection, at which time it, along with its then existing subsidiaries, became our wholly-owned subsidiary. The plaintiffs allege that Ms. Winchester developed injuries as a direct and proximate result of inhalation of asbestos dust particles and fibers from defendants' products. We have obtained an extension of time to answer and are negotiating for a dismissal with counsel for the Plaintiffs. We are currently unable to predict the outcome or reasonably estimate the range of potential loss associated with this matter, if any.

On November 6, 2019, we were served with a summons in a case filed in the U.S. District Court, Northern District of Ohio, captioned Civil Case in Saginaw Chippewa Indian Tribe v. Purdue Pharma et al (Case No. 1-19-op-45841). The complaint names KV, certain of its successor entities, subsidiaries and affiliate entities as defendants, along with over forty other pharmaceutical companies. The plaintiff in this action alleges that KV's subsidiary, Ethex Corporation (as well as the other pharmaceutical companies named in the complaint), manufactured, promoted, sold, and distributed opioids, including a generic version of morphine. Defendants KV and Ethex Corporation were dismissed without prejudice from this Chippewa case pursuant to an order dated March 26, 2020. KV and Ethex were also named but not served in several other similar cases and were dismissed without prejudice from these other cases by orders dated March 26, 2020.

On November 1, 2019, we were named as a defendant in a class action lawsuit filed in the United States District Court for the Western District of Missouri, captioned Barnes v. AMAG Pharmaceuticals, Inc., Case No. 3:19-cv-05088-RK (W.D. Mo.). Subsequently, other plaintiffs represented by the same law firm filed similar class action lawsuits in other jurisdictions, and the lawsuits have been consolidated in the United States District Court for the District of New Jersey, Zamfirova et al. v. AMAG Pharmaceuticals, Inc., Case No. 20-00152-JMV-SCM (April 2, 2020). The plaintiffs in this action, on behalf of themselves and purported state-wide classes of similarly situated consumers in California, Kansas, Missouri, New Jersey, New York, and Wisconsin, assert claims for violation of state consumer protection laws and unjust enrichment based on allegations that we and/or our predecessor companies made misrepresentations and omissions regarding the effectiveness of Makena in connection with the sale and marketing of that product from 2011 through the present. On June 8, 2020, we filed a motion to dismiss the consolidated complaint. Plaintiffs responded with a brief in opposition to the motion on July 6, 2020. Our reply brief was filed on July 20, 2020. Because this case is at the earliest stage, we are currently unable to predict the outcome or reasonably estimate the range of potential loss associated with this matter, if any.

On August 29, 2019, Lunar Representative, LLC ("Plaintiff"), on behalf of the former equity holders of Lumara Health Inc. ("Lumara"), filed a complaint against us in the Delaware Court of Chancery, captioned Lunar Representative, LLC v. AMAG Pharmaceuticals, Inc. (No. 2019-0688-JTL). On September 25, 2019, we filed a motion to dismiss the complaint. On January 9, 2020, Plaintiff filed an amended complaint. Plaintiff alleges that we did not exercise commercially reasonable efforts to market and sell the drug product Makena, and failed to achieve sales milestones for Makena, in breach of certain provisions of the September 28, 2014 Agreement and Plan of Merger between, among other parties, us and Lumara. On January 24, 2020, we filed a motion to dismiss the amended complaint and filed our opening brief in support of such motion to dismiss the amended complaint on April 14, 2020. Plaintiff filed an answer in opposition to the motion to dismiss on June 25, 2020. We filed our reply brief on August 6, 2020. Plaintiff is seeking damages of $50.0 million, together with pre- and post-judgment interest, as well as attorneys' fees and costs. At this time, based on available information, we are unable to reasonably assess the ultimate outcome of this case or determine an estimate, or a range of estimates, of potential losses. We believe this lawsuit is without merit and intend to vigorously defend against the allegations.

On or about April 6, 2016, we received Notice of a Lawsuit and Request to Waive Service of a Summons in a case entitled Plumbers' Local Union No. 690 Health Plan v. Actavis Group et. al. ("Plumbers' Union"), which was filed in the Court of Common Pleas of Philadelphia County, First Judicial District of Pennsylvania and, after removal to federal court, is now pending in the United States District Court for the Eastern District of Pennsylvania (Civ. Action No. 16-65-AB). Thereafter, we were also made aware of a related complaint entitled Delaware Valley Health Care Coalition v. Actavis Group et. al. ("Delaware Valley"), which was filed with the Court of Common Pleas of Philadelphia County, First Judicial District of Pennsylvania District Court of Pennsylvania (Case ID: 160200806). The complaints name K-V Pharmaceutical Company ("KV") (Lumara Health's predecessor company), certain of its successor entities, subsidiaries and affiliate entities (the "Subsidiaries"), along with a number of other pharmaceutical companies. We acquired Lumara Health in November 2014, a year after KV emerged from bankruptcy protection, at which time it, along with its then existing subsidiaries, became our wholly-owned subsidiary. We have not been served with process or waived service of summons in either case. The actions are being brought alleging unfair and deceptive trade practices with regard to certain pricing practices that allegedly resulted in certain payers overpaying for certain of KV's generic products. On July 21, 2016, the Plaintiff in the Plumbers' Union case dismissed KV with prejudice to refiling and on October 6, 2016, all claims against the Subsidiaries were dismissed without prejudice. We are in discussions with Plaintiff's counsel to similarly dismiss all claims in the Delaware Valley case. Because

we have not been served with process in the Delaware Valley case, we are currently unable to predict the outcome or reasonably estimate the range of potential loss associated with this matter, if any.

On July 20, 2015, the Federal Trade Commission (the "FTC") notified us that it is conducting an investigation into whether Lumara Health or its predecessor engaged in unfair methods of competition with respect to Makena or any hydroxyprogesterone caproate product. As previously disclosed, we provided the FTC with a response in August 2015. We believe we have fully cooperated with the FTC and we have had no further interactions with the FTC on this matter since we provided our response to the FTC in August 2015. For further information on this matter, see Note P, "*Commitments and Contingencies*" to our Annual Report.

We may periodically become subject to other legal proceedings and claims arising in connection with ongoing business activities, including claims or disputes related to patents that have been issued or that are pending in the field of research on which we are focused. Other than the above actions, we are not aware of any material claims against us as of June 30, 2020.

P. ACQUISITIONS, COLLABORATION, LICENSE AND OTHER STRATEGIC AGREEMENTS

During the six months ended June 30, 2020, we were a party to the following collaboration, license or other strategic agreements:

Perosphere

On January 16, 2019, we acquired Perosphere pursuant to the Agreement and Plan of Merger (the "Perosphere Agreement"), dated as of December 12, 2018 between AMAG and Perosphere. We accounted for this transaction as an asset acquisition under ASU No. 2017-01, *Business Combinations (Topic 805): Clarifying the Definition of a Business* ("ASU 2017-01").

Under and subject to the terms and conditions set forth in the Perosphere Agreement, we are obligated to pay future contingent consideration of up to an aggregate of $365.0 million (the "Milestone Payments"), including (a) up to an aggregate of $140.0 million that becomes payable upon the achievement of specified regulatory milestones for ciraparantag (the "Regulatory Milestone Payments"), including a $40.0 million milestone payment upon approval of ciraparantag by the European Medicines Agency and (b) up to an aggregate of $225.0 million that becomes payable conditioned upon the achievement of specified sales milestones (the "Sales Milestone Payments"). If the final label approved for ciraparantag in the U.S. includes a boxed warning, the Regulatory Milestone Payments shall no longer be payable, and any previously paid Regulatory Milestone Payments shall be credited against 50% of any future Milestone Payments that otherwise becomes payable. The first sales milestone payment of $20.0 million will be payable upon annual net sales of ciraparantag of at least $100.0 million.

Velo

In September 2018, we exercised our option to acquire the global rights to the AMAG-423 program, pursuant to an option agreement entered into in July 2015 (the "Velo Option Agreement") with Velo Bio, LLC ("Velo"), the terms of which were amended at the time of exercise. We accounted for this transaction as an asset acquisition under ASU No. 2017-01. Under the terms of the agreement, we are obligated to pay Velo a $30.0 million milestone payment upon FDA approval of AMAG-423. In addition, we are obligated to pay sales milestone payments to Velo of up to $240.0 million in the aggregate, triggered at various annual net sales thresholds between $300.0 million and $900.0 million and low-single digit royalties based on net sales. Further, we have assumed additional obligations under a previous agreement entered into by Velo with a third-party, including a $5.0 million milestone payment upon regulatory approval and $10.0 million following the first commercial sale of AMAG-423, payable in quarterly installments as a percentage of quarterly gross commercial sales until the obligation is met. We are also obligated to pay the third-party low-single digit royalties based on net sales. In July 2020, we decided to stop the AMAG-423 Phase 2b/3 study based primarily on an interim analysis of the data collected to date in the study. Refer to Note U, *"Subsequent Events"* for additional detail.

Antares

We are party to a development and license agreement (the "Antares License Agreement") with Antares Pharma, Inc. ("Antares"), which grants us an exclusive, worldwide, royalty-bearing license, with the right to sublicense, to certain intellectual property rights, including know-how, patents and trademarks, to develop, use, sell, offer for sale and import and export the Makena auto-injector. Under the terms of the Antares License Agreement, as amended in March 2018, we are responsible for the clinical development and preparation, submission and maintenance of all regulatory applications in each

country where we desire to market and sell the Makena auto-injector, including the U.S. We are required to pay royalties to Antares on net sales of the Makena auto-injector until the Antares License Agreement is terminated (the "Antares Royalty Term"). The royalty rates range from high single digit to low double digits and are tiered based on levels of net sales of the Makena auto-injector and decrease after the expiration of licensed patents or where there are generic equivalents to the Makena auto-injector being sold in a particular country. In addition, we are required to pay Antares sales milestone payments upon the achievement of certain annual net sales. The Antares License Agreement terminates at the end of the Antares Royalty Term, but is subject to early termination by us for convenience and by either party upon an uncured breach by or bankruptcy of the other party. In March 2018, the Antares License Agreement was amended to, among other things, transfer the agreement to AMAG from our subsidiary, amend certain confidentiality provisions, and to provide for co-termination with the Antares Manufacturing Agreement (described below).

We are also party to a Manufacturing Agreement with Antares (the "Antares Manufacturing Agreement") that sets forth the terms and conditions pursuant to which Antares agreed to sell to us on an exclusive basis, and we agreed to purchase, the fully packaged Makena auto-injector for commercial distribution. Antares remains responsible for the manufacture and supply of the device components and assembly of the Makena auto-injector. We are responsible for the supply of the drug to be used in the assembly of the finished auto-injector product. The Antares Manufacturing Agreement terminates at the expiration or earlier termination of the Antares License Agreement, but is subject to early termination by us for certain supply failure situations, and by either party upon an uncured breach by or bankruptcy of the other party or our permanent cessation of commercialization of the Makena auto-injector for efficacy or safety reasons.

Endoceutics

In February 2017, we entered into the Endoceutics License Agreement with Endoceutics, Inc. ("Endoceutics") to obtain an exclusive right to commercialize Intrarosa for the treatment of vulvar and vaginal atrophy ("VVA") and female sexual dysfunction ("FSD") in the United States. The transactions contemplated by the Endoceutics License Agreement closed on April 3, 2017. We accounted for the Endoceutics License Agreement as an asset acquisition under ASU 2017-01.

In April 2017, we entered into an exclusive commercial supply agreement with Endoceutics pursuant to which Endoceutics, itself or through affiliates or contract manufacturers, agreed to manufacture and supply Intrarosa to us (the "Endoceutics Supply Agreement") and was our exclusive supplier of Intrarosa in the U.S., subject to certain rights for us to manufacture and supply Intrarosa in the event of a cessation notice or supply failure (as such terms are defined in the Endoceutics Supply Agreement).

On May 21, 2020, we sold our rights to commercialize and have manufactured Intrarosa in the United States to Millicent Pharma Limited ("Millicent") pursuant to an Asset Purchase Agreement between the Company and Millicent, dated May 21, 2020. Under the terms of the Asset Purchase Agreement, we received an upfront payment of $20.9 million in cash, subject to customary purchase price adjustments, including in connection with the transfer of certain inventory. We are eligible to receive up to $105.0 million in aggregate milestone payments upon the achievement of certain sales milestones, namely: (a) $25.0 million the first time net sales during any consecutive twelve month period exceeds $65.0 million, (b) $35.0 million the first time net sales during any consecutive twelve month period exceeds $115.0 million and (c) $45.0 million the first time net sales during any consecutive twelve month period exceeds $175.0 million. We recognized a Gain on Sale of Assets of $14.4 million on our condensed consolidated statements of operations for the three and six months ended June 30, 2020 related to this transaction. The gain recognized is net of transaction fees of $2.5 million and the carrying value of the Intrarosa assets and other costs of $4.0 million.

As part of the transaction with Millicent, we assigned both the Endoceutics License Agreement and the Endoceutics Supply Agreement to Millicent, and we agreed to provide certain transitional services to Millicent for a period of time following the closing pursuant to a transition services agreement.

Palatin

In January 2017, we entered into a license agreement with Palatin Technologies, Inc. ("Palatin") under which we acquired (a) an exclusive license in all countries of North America (the "AMAG Territory"), with the right to grant sub-licenses, to research, develop and commercialize the Vyleesi Products, (b) a worldwide non-exclusive license, with the right to grant sub-licenses, to manufacture the Vyleesi Products, and (c) a non-exclusive license in all countries outside the AMAG Territory, with the right to grant sub-licenses, to research and develop (but not commercialize) the Vyleesi Products (the "Palatin License Agreement"). The transaction closed in February 2017 and was accounted for as an asset acquisition under ASU 2017-01.

In addition, the Palatin License Agreement required us to make contingent payments of up to $300.0 million of aggregate sales milestone payments upon the achievement of certain annual net sales milestones over the course of the license. The first

sales milestone payment of $25.0 million would be triggered when Vyleesi annual net sales exceed $250.0 million. We were also obligated to pay Palatin tiered royalties on annual net sales of the Vyleesi Products, on a product-by-product basis, in the AMAG Territory ranging from the high-single digits to the low double-digits. After the expiration of the applicable royalties for any Vyleesi Product in a given country, the license for such Vyleesi Product in such country would become a fully paid-up, royalty-free, perpetual and irrevocable license. The Palatin License Agreement would expire on the date of expiration of all royalty obligations due thereunder, unless earlier terminated in accordance with the Palatin License Agreement.

In July 2020, we entered into a termination agreement with Palatin detailing the terms and conditions for the termination of the Company's rights and obligations to develop and commercialize Vyleesi under the Palatin License Agreement and for the transfer of full ownership of Vyleesi to Palatin. Refer to Note U, *"Subsequent Events"* for additional detail.

Q. DEBT

Our outstanding debt obligations as of June 30, 2020 and December 31, 2019 consisted of the following (in thousands):

	June 30, 2020	December 31, 2019
2022 Convertible Notes	$ 285,137	$ 277,034
Total long-term debt	285,137	277,034
Less: current maturities	—	—
Long-term debt, net of current maturities	$ 285,137	$ 277,034

Convertible Notes

The outstanding balance of our 2022 Convertible Notes as of June 30, 2020 consisted of the following (in thousands):

	2022 Convertible Notes
Liability component:	
Principal	$ 320,000
Less: debt discount and issuance costs, net	34,863
Net carrying amount	$ 285,137
Gross equity component	$ 72,576

In accordance with accounting guidance for debt with conversion and other options, we separately account for the liability and equity components of our 2022 Convertible Notes by allocating the proceeds between the liability component and the embedded conversion option (the "Equity Component") due to our ability to settle the 2022 Convertible Notes in cash, common stock or a combination of cash and common stock, at our option. The carrying amount of the liability component was calculated by measuring the fair value of a similar liability that does not have an associated convertible feature. The allocation was performed in a manner that reflected our non-convertible debt borrowing rate for similar debt. The Equity Component of the 2022 Convertible Notes was recognized as a debt discount and represents the difference between the proceeds from the issuance of the 2022 Convertible Notes and the fair value of the liability of the 2022 Convertible Notes on the date of issuance. The excess of the principal amount of the liability component over its carrying amount is amortized to interest expense using the effective interest method over five years. The Equity Component is not remeasured as long as it continues to meet the conditions for equity classification.

2022 Convertible Notes

In the second quarter of 2017, we issued $320.0 million aggregate principal amount of convertible senior notes due in 2022 (the "2022 Convertible Notes") and received net proceeds of $310.4 million from the sale of the 2022 Convertible Notes, after deducting fees and expenses of $9.6 million. The approximate $9.6 million of debt issuance costs primarily consisted of underwriting, legal and other professional fees, and we allocated these costs to the liability and equity components based on the allocation of the proceeds. Of the total $9.6 million of debt issuance costs, $2.2 million was allocated to the Equity Component and recorded as a reduction to additional paid-in capital and $7.4 million was allocated to the liability component and is now recorded as a reduction of the 2022 Convertible Notes on our condensed consolidated balance sheets. The portion allocated to the liability component is amortized to interest expense using the effective interest method over five years.

The 2022 Convertible Notes are governed by the terms of an indenture between us, as issuer, and Wilmington Trust, National Association, as the trustee. The 2022 Convertible Notes are senior unsecured obligations and bear interest at a rate of 3.25% per year, payable semi-annually in arrears on June 1 and December 1 of each year, beginning on December 1, 2017. The 2022 Convertible Notes will mature on June 1, 2022, unless earlier repurchased or converted. Upon conversion of the 2022 Convertible Notes, such 2022 Convertible Notes will be convertible into, at our election, cash, shares of our common stock, or a combination thereof, at a conversion rate of 36.5464 shares of common stock per $1,000 principal amount of the 2022 Convertible Notes, which corresponds to an initial conversion price of approximately $27.36 per share of our common stock.

The conversion rate is subject to adjustment from time to time upon the occurrence of certain events, including, but not limited to, the issuance of stock dividends and payment of cash dividends. At any time prior to the close of business on the business day immediately preceding March 1, 2022, holders may convert their 2022 Convertible Notes at their option only under the following circumstances:

1) during any calendar quarter (and only during such calendar quarter), if the last reported sale price of our common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day;

2) during the five business day period after any five consecutive trading day period (the “measurement period”) in which the trading price per $1,000 principal amount of the 2022 Convertible Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of our common stock and the conversion rate on each such trading day; or

3) upon the occurrence of specified corporate events.

On or after March 1, 2022, until the close of business on the business day immediately preceding the maturity date, holders may convert all or any portion of their 2022 Convertible Notes, in multiples of $1,000 principal amount, at the option of the holder regardless of the foregoing circumstances. The 2022 Convertible Notes were not convertible as of June 30, 2020.

We determined the expected life of the debt was equal to the five-year term on the 2022 Convertible Notes. The effective interest rate on the liability component was 9.49% for the period from the date of issuance through June 30, 2020. As of June 30, 2020, the “if-converted value” did not exceed the remaining principal amount of the 2022 Convertible Notes.

2019 Convertible Notes

In February 2014, we issued $200.0 million aggregate principal amount of the 2019 Convertible Notes. During 2017, we entered into privately negotiated transactions with certain investors to repurchase approximately $178.5 million aggregate principal amount of the 2019 Convertible Notes for an aggregate repurchase price of approximately $192.7 million, including accrued interest. The remaining $21.4 million of 2019 Convertible Notes matured on February 15, 2019 and were settled with cash.

Convertible Notes Interest Expense

The following table sets forth total interest expense recognized related to the Convertible Notes during the three and six months ended June 30, 2020 and 2019 (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Contractual interest expense	$ 2,600	$ 2,600	$ 5,200	$ 5,267
Amortization of debt issuance costs	379	345	749	699
Amortization of debt discount	3,721	3,385	7,354	6,814
Total interest expense	$ 6,700	$ 6,330	$ 13,303	$ 12,780

Future Payments

Future annual principal payments on our long-term debt as of June 30, 2020 include $320.0 million due during the year ending December 31, 2022.

R. RESTRUCTURING EXPENSES

In May 2020, we completed a restructuring to reduce the size of our organization in conjunction with the planned divestiture of Intrarosa and Vyleesi and expected declines in our revenue due to the COVID-19 pandemic. Approximately 110 employees were displaced through this workforce reduction. We recorded a one-time restructuring charge of $8.2 million primarily related to severance and related benefits on our condensed consolidated statement of operations during the second quarter of 2020 and expect the restructuring charges incurred to date under this program to be substantially paid in cash by the end of the second quarter of 2021.

In February 2019, we completed a restructuring to combine our women's health and maternal health sales forces into one integrated sales team, which promotes Intrarosa, the Makena auto-injector and Vyleesi. Approximately 110 employees were displaced through this workforce reduction. We recorded one-time restructuring charges of $7.4 million primarily related to severance and related benefits on our condensed consolidated statement of operations during the first quarter of 2019. The remaining accrued restructuring charges incurred under this program will be paid in cash by the end of the first quarter of 2021.

The following table displays charges taken related to the restructuring during the three months ended June 30, 2020 (in thousands):

2020 Restructuring charges:	
Workforce reduction	$ 8,090
Other	107
Total 2020 restructuring charges	$ 8,197

The following table displays a rollforward of the changes to the accrued balances as of June 30, 2020 (in thousands):

	2019 Restructuring	**2020 Restructuring**	**Total**
Balance accrued at December 31, 2019	$ 797	$ —	$ 797
2020 Restructuring Charges	—	8,197	8,197
Workforce Reduction Payments	(498)	(2,512)	(3,010)
Other Payments	—	(69)	(69)
Balance accrued at June 30, 2020	$ 299	$ 5,616	$ 5,915

S. REVISION OF PRIOR PERIOD FINANCIAL STATEMENTS

Subsequent to the issuance of our Form 10-Q for the quarter ended March 31, 2020, management identified certain individually immaterial errors aggregating to $6.3 million related to governmental rebate accruals associated with Makena sales from 2016 through the first quarter of 2020. From 2016 through 2019, we understated our GTN adjustments for governmental rebates and the related accrual for a certain state program by $6.3 million and for the quarter ended March 31, 2020, we overstated these amounts by $1.8 million. We concluded that the errors were not material to any prior annual or interim period; however, we determined that correcting the aggregate error would be material to the current period. As a result, we have revised our historical financial statements to properly reflect GTN adjustments and the related accrual in the appropriate periods.

The effect of the corrections to our condensed consolidated balance sheet as of December 31, 2019 are as follows:

	December 31, 2019		
	As reported	Adjustment	As adjusted
Accrued expenses	$ 177,079	$ 6,303	$ 183,382
Accumulated deficit	$ (1,008,898)	$ (6,303)	$ (1,015,201)

The effect of the corrections to our condensed consolidated statements of operations for the three and six months ended June 30, 2019 are as follows (in thousands, except per share amounts):

	Three Months Ended June 30, 2019			Six Months Ended June 30, 2019		
	As reported	Adj	As adjusted	As reported	Adj	As adjusted
Product sales, net	$ 77,976	$ (342)	$ 77,634	$ 153,705	$ (658)	$ 153,047
Total revenues	78,109	(342)	77,767	153,913	(658)	153,255
Net loss	$ (120,827)	$ (342)	$ (121,169)	$ (242,911)	$ (658)	$ (243,569)
Basic and diluted net loss per share	$ (3.57)	$ (0.01)	$ (3.58)	$ (7.12)	$ (0.02)	$ (7.14)

The condensed consolidated statements of other comprehensive loss for the three and six months ended June 30, 2019 have been revised to include the changes to “net loss” summarized above.

The condensed consolidated statements of stockholders’ equity for the three and six months ended June 30, 2019 have been revised to include the changes to “net loss” summarized above as well as an increase of $5.1 million to the beginning “accumulated deficit” as of January 1, 2019, representing the accumulated error through that date.

The impact on our condensed consolidated statements of cash flows for the six months ended June 30, 2019, was limited to the offsetting correction between “net loss” and changes in “accounts payable and accrued expenses” presented within “net cash used in operating activities”, as summarized in the above tables.

Refer to *Item 5* of this quarterly report for the impact on periods reported in the Company’s 2019 Annual Report on Form 10-K filed with the SEC on March 6, 2020 and for the impact on our condensed consolidated statement of operations for the three months ended March 31, 2020.

T. RECENTLY ISSUED AND PROPOSED ACCOUNTING PRONOUNCEMENTS

From time to time, new accounting pronouncements are issued by FASB or other standard setting bodies that are adopted by us as of the specified effective date. There were no applicable accounting pronouncements issued but not adopted as of June 30, 2020.

U. SUBSEQUENT EVENTS

Cessation of the AMAG-423 Study

In July 2020, we decided to stop the AMAG-423 Phase 2b/3a study. This decision was based primarily on the independent Data Safety Monitoring Board's (the "DSMB") unanimous recommendation to stop the study following an interim analysis of the data collected to date in the study, which analysis we asked the DSMB to conduct due to extended and ongoing delays in enrollment of the trial (based primarily on the effect of COVID-19 on clinical trial research and the nature of the patient population). There were no safety concerns raised during this study and safety was not a contributing factor to our decision to terminate the study. We are currently focused on ensuring an appropriate closeout of the study in partnership with investigators and other relevant stakeholders. In connection with the cessation of the AMAG-423 Phase 2b/3a study, on August 6, 2020, we terminated our supply agreement (including termination of significant minimum purchase obligations) with our third party supplier in exchange for a one-time payment by us of $12.5 million and our grant to our third party supplier of a 9-month option (subject to extension under certain situations) to acquire the AMAG-423 program rights and assume our related obligations, including our obligations under the Velo Option Agreement.

License to Develop and Commercialize ciraparantag in Europe, Australia and New Zealand

In July 2020, we entered into a License and Commercialization Agreement with Norgine B.V. ("Norgine", and such agreement, the "Norgine Agreement"), pursuant to which we granted Norgine an exclusive license to develop and commercialize ciraparantag in certain countries in Europe, Australia and New Zealand. We received a $30.0 million upfront payment upon signing. In addition, pursuant to the terms and conditions of the Norgine Agreement (a) Norgine will pay us one-third of the actual and reasonable out-of-pocket costs of the Phase 3 program, pursuant to a mutually agreed upon budget, (b) we are eligible to receive up to$70.0 million upon the achievement of certain regulatory milestones (of which we will pay $40.0 million to the former equity holders of Perosphere pursuant to the terms of the Perosphere Agreement), (c) we are eligible to receive up to $190.0 million contingent upon meeting certain sales milestones, and (d) Norgine will pay us tiered double-digit royalties on net sales in the licensed territory. We will be responsible for manufacturing and supplying Norgine with its requirements of clinical and commercial product pursuant to supply agreement(s) to be entered into by the parties.

Settlement

On July 14, 2020, we entered into a Confidential Settlement Agreement and Release with a third-party manufacturer to resolve outstanding disputes. Pursuant to this agreement, we were paid a sum of $17.4 million, and the parties exchanged mutual releases to resolve all disputes between them.

Termination of the Palatin Agreement

In July 2020, we entered into a termination agreement with Palatin detailing the terms and conditions for the termination of our rights and obligations to develop and commercialize Vyleesi under the Palatin License Agreement and for the transfer of full ownership of Vyleesi to Palatin (the "Termination Agreement"). In accordance with the terms of the Termination Agreement, we transferred and assigned to Palatin the regulatory approval for Vyleesi, inventory, certain third party contracts, intellectual property rights and regulatory files and commercial materials of AMAG related to Vyleesi in the AMAG Territory. In consideration for the early termination of the License Agreement, the assumption of certain liabilities by Palatin (including significant minimum purchase obligations), and in lieu of any future milestone payments, royalties and other payments by AMAG to Palatin contemplated by the Palatin License Agreement, we paid Palatin $12.0 million following the termination, and we will pay an additional $4.3 million on March 31, 2021. In addition, we agreed to provide certain transitional services to Palatin for a period of time following the closing pursuant to a transition services agreement.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations:

The following information should be read in conjunction with the unaudited financial information and the notes thereto included in this Quarterly Report on Form 10-Q and the audited financial information and the notes thereto included in our Annual Report on Form 10-K for the year ended December 31, 2019 (our "Annual Report"). Except for the historical information contained herein, the matters discussed in this Quarterly Report on Form 10-Q may be deemed to be forward-looking statements that involve risks and uncertainties. We make such forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. In this Quarterly Report on Form 10-Q terminology such as "may," "will," "could," "should," "would," "expect," "anticipate," "continue," "believe," "plan," "estimate," "intend" or other similar words and expressions (as well as other words or expressions referencing future events, conditions or circumstances) are intended to identify forward-looking statements.

Examples of forward-looking statements contained in this report include, without limitation, statements regarding the following:

- *our plans regarding our business and our portfolio and the impact on our organization from the recent divestiture of our women's health business;*
- *beliefs regarding the expenses, challenges and timing of our preclinical studies and clinical trials, including expectations regarding the clinical trial timing for and results of ciraparantag;*
- *beliefs regarding our commercial strategies and efforts;*
- *our estimates and beliefs regarding the market opportunities for each of our products and product candidates;*
- *beliefs about and expectations for our commercialization, marketing and manufacturing of our products and product candidates, if approved, (which may be conducted by third parties);*
- *expectations related to potential FDA regulatory actions for Makena following the recent meeting of its Advisory Committee and beliefs and expectations regarding our interactions with the FDA;*
- *beliefs and expectations about our cash flows and liquidity and capital resources;*
- *beliefs about health care provider behaviors and reactions;*
- *plans to work with the FDA and beliefs that there may be a path forward for continued commercialization of Makena;*
- *expectations and plans with respect to litigation matters and contract disputes, including the merits thereof;*
- *the timing and amounts of milestone and royalty payments;*
- *expectations and plans as to recent and upcoming regulatory and commercial developments and activities, including requirements, initiatives and timelines for clinical trials and post-approval commitments for our products and product candidates, and their impact on our business and competition;*
- *expectations for our intellectual property rights covering our product candidates and technology and the impact of generics and other competition could have on each of our products and our business generally, including the timing and number of generic entrants;*
- *developments relating to our competitors and our industry, including the impact of government regulation;*
- *expectations regarding third-party reimbursement and the behaviors of payers, healthcare providers, patients and other industry participants, including with respect to product price increases and volume-based and other rebates and incentives;*
- *expectations regarding the contribution of revenues from our products to the funding of our on-going operations and costs to be incurred in connection with revenue sources to fund our future operations;*
- *expectations regarding customer returns and other revenue-related reserves and accruals;*
- *beliefs about our internal controls and procedures and remediation efforts of our identified material weakness;*
- *expectations as to the manufacture of drug substances and drug products and key materials for our products and product candidates;*
- *expectations as to our effective tax rate and our ability to realize our net operating loss carryforwards and other tax attributes;*
- *the impact of accounting pronouncements;*
- *expectations regarding our financial performance and our ability to implement our strategic plans for our business;*
- *estimates and beliefs related to our 2022 Convertible Notes and the manner in which we intend or are required to settle the 2022 Convertible Notes, and our expectation that we will need to issue new securities, in the form of debt, equity or equity-linked securities, or a combination thereof, in order to refinance the 2022 Convertible Notes;*
- *estimates, beliefs and judgments related to the valuation of certain intangible assets, goodwill, contingent consideration, debt and other assets and liabilities, including our impairment analysis and our methodology and assumptions regarding fair value measurements;*
- *beliefs regarding the impact of our May 2020 and February 2019 restructuring initiatives; and*
- *the impact of the COVID-19 pandemic on the above.*

Any forward-looking statement should be considered in light of the factors discussed in Part II, Item 1A below under "Risk Factors" in this Quarterly Report on Form 10-Q and in Part I, Item 1A in our Annual Report. We caution readers not to place undue reliance on any such forward-looking statements, which speak only as of the date they are made. We disclaim any obligation, except as specifically required by law and the rules of the U.S. Securities and Exchange Commission, to publicly update or revise any such statements to reflect any change in company expectations or in events, conditions or circumstances on which any such statements may be based, or that may affect the likelihood that actual results will differ from those set forth in the forward-looking statements.

Overview

AMAG Pharmaceuticals, Inc., a Delaware corporation, was founded in 1981. We are a pharmaceutical company focused on bringing innovative products to patients with unmet medical needs by leveraging our development and commercial expertise to invest in and grow our pharmaceutical products and product candidates across a range of therapeutic areas. Our currently marketed products support the health of patients in the areas of hematology and maternal and women's health, including Feraheme® (ferumoxytol injection) for intravenous use and Makena® (hydroxyprogesterone caproate injection) auto-injector. In addition to our approved products, our portfolio includes one product candidate, ciraparantag, which is being studied as an anticoagulant reversal agent.

In January 2020, we announced that we had recently completed a review of our product portfolio and strategy with the objective of driving near- and long-term profitability and enhancing shareholder value. Based on this strategic review, we sold all of our rights to Intrarosa to Millicent Pharma Limited in May 2020, pursuant to an Asset Purchase Agreement, for which we received $20.9 million in cash at closing and are eligible to receive up to an additional $105.0 million in the aggregate upon the achievement of certain sales milestones. For additional information, see Note P, "A*cquisitions, Collaborations, License and Other Strategic Agreement*s" to our condensed consolidated financial statements included in this Quarterly Report on Form 10-Q.

Additionally, in July 2020, we entered into a termination agreement with Palatin Technologies, Inc. ("Palatin"), pursuant to which we terminated the License Agreement with Palatin, dated January 8, 2017 (the "Palatin License Agreement"), and our rights and obligations to develop and commercialize Vyleesi thereunder, were terminated. In addition, we transferred all rights in and to and full ownership of Vyleesi, including the regulatory approval of Vyleesi, to Palatin. Refer to Note U, *Subsequent Events*, for additional detail.

The COVID-19 pandemic led to a global pause for various clinical research projects across therapeutic areas, including trial-related activities for the AMAG-423 Phase 2b/3a study. In light of these extended and ongoing delays and the slow rate of enrollment to date, we decided to conduct an interim analysis with data from 55 subjects to validate original study assumptions that were based on the 51-subject proof-of-concept DEEP study completed in 2007. The interim analysis was conducted by the independent Data Safety Monitoring Board (DSMB), and the DSMB provided a unanimous recommendation to stop the study based upon the low likelihood that future enrollment would demonstrate a benefit of AMAG-423 in women with severe preeclampsia. There were no safety concerns raised during this study and safety was not a contributing factor to our decision to terminate the study. In July 2020, we decided to stop the AMAG-423 Phase 2b/3a study based primarily on the DSMB's recommendation, and we are currently focused on ensuring an appropriate closeout of the study in partnership with investigators and other relevant stakeholders. In connection with the wind-down of the AMAG-423 Phase 2b/3a study, on August 6, 2020, we terminated our supply agreement (including considerable minimum purchase obligations) with Protherics UK Ltd, a subsidiary of BTG plc ("BTG") in exchange for a one-time payment by us of $12.5 million and our grant to BTG of a 9-month option (subject to extension under certain situations) to acquire the AMAG 423 program rights and assume our related obligations, including our obligations under the option agreement with Velo Bio, LLC.

We intend to continue to expand the impact of our current and future products for patients by delivering on our business strategy, which includes collaborating on and acquiring promising therapies at various stages of development, and advancing them through the clinical and regulatory process to deliver new treatment options to patients. Our primary sources of revenue are currently from sales of Feraheme and the Makena auto-injector.

AMAG's Portfolio of Products and Product Candidates

Feraheme

Feraheme received approval from the U.S. Food and Drug Administration (the "FDA") in June 2009 for use as an IV iron replacement therapy for the treatment of iron deficiency anemia ("IDA") in adult patients with chronic kidney disease ("CKD"). In February 2018, the FDA approved the supplemental New Drug Application to expand the Feraheme label to include all eligible adult IDA patients who have intolerance to oral iron or have had unsatisfactory response to oral iron in addition to patients who have CKD. IDA is prevalent in many different patient populations, such as patients with CKD, gastrointestinal diseases or disorders, inflammatory diseases and chemotherapy-induced anemia. For many of these patients, treatment with oral iron is unsatisfactory or is not tolerated. It is estimated that approximately five million people in the U.S. have IDA and we estimate that a small fraction of the patients who are diagnosed with IDA regardless of the underlying cause are currently being treated with IV iron.

The expanded Feraheme label was supported by two positive pivotal Phase 3 trials, which evaluated Feraheme versus iron

sucrose or placebo in a broad population of patients with IDA and positive results from a third Phase 3 randomized, double-blind non-inferiority trial that evaluated the incidence of moderate-to-severe hypersensitivity reactions (including anaphylaxis) and moderate-to-severe hypotension with Feraheme compared to Injectafer® (ferric carboxymaltose injection) (the "Feraheme comparator trial"). The Feraheme comparator trial demonstrated comparability to Injectafer® based on the primary composite endpoint of the incidence of moderate-to-severe hypersensitivity reactions (including anaphylaxis) and moderate-to-severe hypotension (Feraheme incidence 0.6%; Injectafer® incidence 0.7%). Adverse event rates were similar across both treatment groups; however, the incidence of severe hypophosphatemia (defined by blood phosphorous of <0.2 mg/dl at week 2) was less in the patients receiving Feraheme (0.4% of patients) compared to those receiving Injectafer® (38.7% of patients).

Makena

Makena is indicated to reduce the risk of preterm birth in women pregnant with a single baby who have a history of singleton spontaneous preterm birth. We acquired the rights to Makena in connection with our acquisition of Lumara Health Inc. ("Lumara Health") in November 2014.

Makena was approved by the FDA in February 2011 as an intramuscular ("IM") injection (the "Makena IM product") packaged in a multi-dose vial and in February 2016 as a single-dose preservative-free vial. In February 2018, the Makena auto-injector was approved by the FDA for administration via a pre-filled subcutaneous auto-injector, a drug-device combination product (the "Makena auto-injector").

In March 2019, we announced topline results from the Progestin's Role in Optimizing Neonatal Gestation clinical trial ("PROLONG Trial"), a randomized, double-blinded, placebo-controlled clinical trial evaluating Makena in patients with a history of a prior spontaneous singleton preterm delivery. The PROLONG Trial was conducted under the FDA's "Subpart H" accelerated approval process and, in October 2019, we announced that full results of the PROLONG Trial were published online in the *American Journal of Perinatology.* The PROLONG Trial, in contrast to a previously conducted Phase 3 trial (the Meis trial) on which Makena's approval was primarily based, did not demonstrate a statistically significant difference between the treatment and placebo arms for the co-primary endpoints. The adverse event profile between the two arms was comparable. On October 29, 2019, the Bone, Reproductive and Urologic Drugs Advisory Committee (the "Advisory Committee") met to discuss the results of the PROLONG Trial to inform the FDA's regulatory decision for Makena and voted, among other things, nine to seven that the FDA should pursue withdrawal of approval for Makena. The FDA is not required to follow the recommendations of its Advisory Committees, but will take them into consideration in deciding what regulatory steps to take with respect to Makena.

This complex and unique situation has no clear precedent and it is therefore difficult to predict outcomes or timing of any FDA actions with respect to Makena. In the first quarter of 2020 in response to our request to the FDA for a meeting to discuss the clinical benefit of the product, the FDA indicated that it was premature to meet at this time as it was still reviewing the matter. We recently heard from the FDA that they are still reviewing information pertinent to Makena. They have not indicated a timeframe in which they plan on getting back to us. In anticipation of further discussion with the FDA, we are initiating a retrospective study to generate additional data. We remain committed to working collaboratively with the FDA to seek a path forward to ensure eligible pregnant women continue to have access to Makena and the currently approved generics that rely on Makena as an innovator drug.

Ciraparantag

In January 2019, we acquired ciraparantag with our acquisition of Perosphere Pharmaceuticals Inc. ("Perosphere"), a privately-held biopharmaceutical company pursuant to an Agreement and Plan of Merger (the "Perosphere Agreement"). Ciraparantag is a small molecule anticoagulant reversal agent in development as a single dose solution that is delivered intravenously to reverse the effects of certain direct oral anticoagulants ("DOACs") (Xarelto®(rivaroxaban), Eliquis®(apixaban), and Savaysa®(edoxaban) as well as Lovenox® (enoxaparin sodium injection), a low molecular weight heparin when reversal of the anticoagulant effect of these products is needed for emergency surgery, urgent procedures or due to life-threatening or uncontrolled bleeding. Ciraparantag has been granted Fast Track designation by the FDA.

Ciraparantag has been evaluated in more than 250 healthy volunteers across seven clinical trials. A first in human Phase 1 study evaluated the safety, tolerability, pharmacokinetic, and pharmacodynamic effects of ciraparantag alone and following a single dose of Savaysa®, and another Phase 1 study evaluated the overall metabolism of the drug. Two Phase 2a studies evaluated the safety, tolerability, pharmacokinetic, and pharmacodynamic effects related to the reversal of unfractionated heparin and Lovenox® and three Phase 2b randomized, single-blind, placebo-controlled dose-ranging studies evaluated the reversal of Savaysa®, Eliquis®, and Xarelto® to assess the safety and efficacy of ciraparantag, each of which included 12 subjects dosed with ciraparantag. In these Phase 2b clinical trials, ciraparantag or placebo was administered to healthy volunteers in a blinded fashion after achieving steady blood concentrations of the respective anticoagulant. Pharmacodynamic

assessments of whole blood clotting time ("WBCT"), an important laboratory measure of clotting capacity, were sampled frequently for the first hour post study drug dose, and then periodically thereafter out to 24 hours post administration of study drug. Key endpoints in the Phase 2 trials included mean change from baseline in WBCT and the proportion of subjects that returned to within 10% of their baseline WBCT. Subjects in these studies experienced a rapid and statistically significant ($p<0.001$) reduction in WBCT compared to placebo as early as 15 minutes after the administration of ciraparantag in each of the four studies and the effect was sustained for 24 hours. Moreover, in both the Eliquis® and Xarelto® studies, 100% of subjects in the highest dose cohorts (180 mg of ciraparantag) were responders, as defined by a return to within 10% of baseline WBCT within 30 minutes and sustained for at least six hours. Ciraparantag has been well tolerated in clinical trials, with the most common related adverse events to date being mild sensations of coolness, warmth or tingling, skin flushing, and alterations in taste. There have been no drug-related serious adverse events to date.

We are planning to conduct Phase 2b clinical studies in healthy volunteers to confirm the proposed dose of ciraparantag to be used in the Phase 3 program, after reaching peak steady state blood concentrations of certain DOAC drugs. The Phase 2b studies will utilize an automated coagulometer developed by Perosphere Technologies, Inc. ("Perosphere Technologies"), an independent company, to measure WBCT and, based on feedback from the FDA, we will also measure WBCT manually. An investigational device exemption, which Perosphere Technologies will submit once it completes the additional required analytical study, is required for use of the coagulometer in clinical studies. Due to the impact of the COVID-19 pandemic and the additional requirement of manual WBCT testing, the Phase 2b study initiation has been delayed, may continue to be delayed and may take longer than anticipated. Furthermore, even once we can proceed with initiation of the trial and begin enrollment, COVID-19 might present further challenges if study candidates are hesitant to enroll and increase their inter-personal exposure because of concerns over the contagiousness of COVID-19 or if additional screening criteria is needed. We are therefore unable to estimate when the study might be completed.

In July 2020, we entered into a License and Commercialization Agreement with Norgine B.V. ("Norgine" and such agreement, the "Norgine Agreement"), pursuant to which we granted Norgine an exclusive license to develop and commercialize ciraparantag in certain countries in Europe, Australia and New Zealand. For additional details regarding the Norgine Agreement, see Note U, "*Subsequent Events*".

Impact of COVID-19 on our business

We continue to evaluate the impact of COVID-19 on patients, healthcare providers and our employees, as well as on our operations and the operations of our business partners and healthcare communities. Given the importance of supporting our patients, we are diligently working with our suppliers, healthcare providers and partners to provide patients with access to Feraheme and Makena while taking into account regulatory, institutional, and government guidance, policies and protocols. To date, COVID-19 protocols have restricted or discouraged patient access to hospitals, clinics, physicians' offices and other sites where Feraheme and Makena are typically administered and caused a re-prioritization of healthcare services. As a result, the COVID-19 pandemic impacted our net product sales and financial results during the three months ended June 30, 2020. While the continued impact of the COVID-19 pandemic on our net product sales is uncertain, we observed a decline in demand for Feraheme and Makena during parts of the quarter, and, if disruptions continue, it may result in an adverse impact to our financial performance for 2020. We are currently working to initiate our planned ciraparantag Phase 2b trial that was delayed as a result of COVID-19, and we are working with our CROs to understand the duration and scope of disruptions at clinical trial sites and on anticipated enrollment for our planned ciraparantag Phase 2b trial. To date, we and our suppliers have been able to continue to supply our products and our product candidates, and currently do not anticipate any interruptions in supply. Given the uncertainties regarding the duration and scope of the COVID-19 pandemic, the full impacts on our sales, supply, research and development efforts and operations are currently unknown, but will likely continue to impact our performance in 2020 and could continue to represent a risk to our future performance. We are actively monitoring the situation and may take precautionary and preemptive actions that we determine are in the best interests of our business. We cannot predict the effects that such actions may have on our business or on our financial results, in particular with respect to demand for or access to our products. Please refer to our Risk Factors in Part II, Item IA of this Quarterly Report on Form 10-Q for further discussion of COVID-19 risks.

Critical Accounting Policies

Our management's discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the U.S. The preparation of these financial statements requires management to make certain estimates and assumptions that affect the reported amount of assets, liabilities, revenues and expenses, and the related disclosure of contingent
liabilities. Actual results could differ materially from those estimates. Management employs the following critical accounting
policies affecting our most significant estimates and assumptions: revenue recognition and related sales allowances and

accruals; valuation of marketable securities; valuation of inventory; business combinations and asset acquisitions, including acquisition-related contingent consideration; goodwill; intangible assets; equity-based compensation; and income taxes.

There have been no significant changes to our critical accounting policies and estimates during the six months ended June 30, 2020, compared to the critical accounting policies and estimates disclosed in Part II, Item 7, of our Annual Report.

Results of Operations - Three Months Ended June 30, 2020 and 2019

Revenues

Total net product sales for the three months ended June 30, 2020 and 2019 consisted of the following (in thousands except for percentages):

	Three Months Ended June 30,		2020 to 2019	
	2020	2019	$ Change	% Change
Product sales, net				
Feraheme	$ 29,635	$ 42,074	$ (12,439)	(30)%
Makena	22,325	30,593	(8,268)	(27)%
Intrarosa	1,216	4,877	(3,661)	(75)%
Other	(447)	90	(537)	<(100 %)
Total product sales, net	$ 52,729	$ 77,634	$ (24,905)	(32)%

Our total net product sales for the three months ended June 30, 2020 decreased by $24.9 million as compared to the same period in 2019, due primarily to decreases in Feraheme and Makena net sales. We believe that the decrease in Makena net sales during the quarter was primarily driven by concern amongst health care providers caused by the unfavorable FDA Advisory Committee recommendation for Makena during the fourth quarter of 2019 and to a lesser extent, by negative impacts of COVID-19. The decrease in Feraheme net sales was driven by the negative impacts of COVID-19 during the quarter as COVID-19 protocols have restricted or discouraged patient access to hospitals, clinics and other sites where Feraheme is typically administered. Intrarosa net sales also decreased during the three months ended June 30, 2020 as compared to the same period in 2019 as a result of the disposition of the product in May 2020.

While the impact of the COVID-19 pandemic on our net product sales is uncertain, we have observed a decline in demand for Feraheme and Makena, and we expect this will result in an adverse impact to our financial performance for 2020. The full impact to our business cannot be estimated at this time because such an estimate is highly dependent on the severity and duration of the COVID-19 pandemic.

Product Sales Allowances and Accruals

Total gross product sales were offset by product sales allowances and accruals for the three months ended June 30, 2020 and 2019 as follows (in thousands, except for percentages):

	Three Months Ended June 30,				2020 to 2019	
	2020	Percent of gross product sales	2019	Percent of gross product sales	$ Change	% Change
Gross product sales	$ 181,995		$ 239,185		$ (57,190)	(24)%
Provision for product sales allowances and accruals:						
Contractual adjustments	109,861	60 %	128,641	54 %	(18,780)	(15)%
Governmental rebates	19,405	11 %	32,910	14 %	(13,505)	(41)%
Total	129,266	71 %	161,551	68 %	(32,285)	(20)%
Product sales, net	$ 52,729		$ 77,634		$ (24,905)	(32)%

The increase in contractual adjustments as a percentage of gross product sales primarily related to a higher mix of business through commercial reimbursement channels and additional discounts offered to commercial entities. The decrease in governmental rebates as a percentage of gross product sales primarily related to changes in estimates related to prior periods during the three months ended June 30, 2019.

We may refine our estimated revenue reserves as we continue to obtain additional experience or as our customer mix changes. If we determine in future periods that our actual experience is not indicative of our expectations, if our actual experience changes, or if other factors affect our estimates, we may be required to adjust our allowances and accruals estimates, which would affect our net product sales in the period of the adjustment and could be significant.

Costs and Expenses

Cost of Product Sales

Cost of product sales for the three months ended June 30, 2020 and 2019 were as follows (in thousands except for percentages):

	Three Months Ended June 30,		2020 to 2019	
	2020	2019	$ Change	% Change
Direct cost of product sales	$ 9,219	$ 20,347	$ (11,128)	(55)%
Amortization of intangible assets	8,961	3,943	5,018	>100 %
	$ 18,180	$ 24,290	$ (6,110)	(25)%
Direct cost of product sales as a percentage of net product sales	17 %	26 %		

Direct cost of product sales as a percentage of net product sales decreased during the three months ended June 30, 2020 as compared to the three months ended June 30, 2019. The decrease was primarily driven by a $4.8 million one-time inventory write-down related to the Makena IM product included in direct cost of product sales for the three months ended June 30, 2019. We expect direct cost of product sales as a percentage of net product sales to remain relatively consistent or increase slightly relative to the percentage at the end of the second quarter of 2020 for the remainder of 2020.

Amortization of intangible assets increased by $5.0 million from June 30, 2019 to June 30, 2020 due to accelerated amortization resulting from our reassessment and prospective adjustment of the useful lives of the Makena auto-injector developed technology, Intrarosa developed technology and Vyleesi developed technology intangible assets during the fourth quarter of 2019.

Research and Development Expenses

Research and development expenses for the three months ended June 30, 2020 and 2019 consisted of the following (in thousands except for percentages):

	Three Months Ended June 30,		2020 to 2019	
	2020	2019	$ Change	% Change
External research and development expenses	$ 4,173	$ 8,810	$ (4,637)	(53)%
Internal research and development expenses	4,090	6,170	(2,080)	(34)%
Total research and development expenses	$ 8,263	$ 14,980	$ (6,717)	(45)%

The $6.7 million decrease in research and development expenses incurred in the three months ended June 30, 2020, as compared to the three months ended June 30, 2019, was primarily related to lower costs for Vyleesi following FDA approval in 2019.

Although the potential impacts of the COVID-19 pandemic are evolving daily and cannot be predicted, we expect our external research and development expenses to increase on a quarterly basis for the remainder of 2020 as compared to the second quarter of 2020. This expectation is dependent on the duration and extent of the impacts of COVID-19 on our ability to initiate our planned ciraparantag Phase 2b trial. Regardless of the COVID-19 pandemic, we cannot determine with certainty the

duration and completion costs of our current or future clinical trials of our products or product candidate as the duration, costs and timing of clinical trials depends on a variety of factors including the uncertainties of future clinical and preclinical studies, uncertainties in clinical trial enrollment rates and significant and changing government regulation.

Selling, General and Administrative Expenses

Selling, general and administrative expenses for the three months ended June 30, 2020 and 2019 consisted of the following (in thousands except for percentages):

	Three Months Ended June 30,		2020 to 2019	
	2020	2019	$ Change	% Change
Compensation, payroll taxes and benefits	$ 22,216	$ 29,032	$ (6,816)	(23)%
Professional, consulting and other outside services	15,315	44,650	(29,335)	(66)%
Fair value of contingent consideration liability	—	(14)	14	(100)%
Equity-based compensation expense	2,037	3,656	(1,619)	(44)%
Total selling, general and administrative expenses	$ 39,568	$ 77,324	$ (37,756)	(49)%

Selling, general and administrative expenses decreased by $37.8 million in the three months ended June 30, 2020 as compared to the same period in 2019, primarily due to decreases in marketing spend related to our women's health products and reduced compensation related costs as a result of our May 2020 restructuring.

We expect that total selling, general and administrative expenses for future quarters of 2020 will decline moderately compared to the second quarter of 2020 due to our women's health divestiture and related corporate restructuring.

Impairment of Intangible Assets

During the three months ended June 30, 2019, we discontinued the Makena IM products and recorded a $77.4 million impairment charge for the Makena base technology intangible asset, which related to the Makena IM products.

Gain on Sale of Assets

During the three months ended June 30, 2020, we recognized a gain on the sale of all of our rights to Intrarosa of $14.4 million. The gain recognized is net of transaction fees of $2.5 million and the carrying value of the Intrarosa assets and other costs of $4.0 million.

Restructuring Expenses

In May 2020, we completed a restructuring to reduce the size of our organization in conjunction with the divestiture of Intrarosa and Vyleesi and expected declines in our revenue due to the COVID-19 pandemic. Approximately 110 employees were displaced through this workforce reduction. We recorded a restructuring charge of $8.2 million primarily related to severance and related benefits in the second quarter of 2020 and expect the restructuring charges incurred to date under this program to be substantially paid in cash by the end of the second quarter of 2021. We estimate total savings from the restructuring in 2020 will be approximately $13.1 million. For additional information on restructuring expenses, see Note R, "*Restructuring Expenses*" to our condensed consolidated financial statements included in this Quarterly Report on Form 10-Q.

Other Expense, Net

Other expense, net for the three months ended June 30, 2020 increased by $1.3 million due to a decrease in interest and dividend income and an increase in interest expense.

Income Tax Benefit

The following table summarizes our effective tax rate and income tax benefit for the three months ended June 30, 2020 and 2019 (in thousands except for percentages):

	Three Months Ended June 30,	
	2020	2019
Effective tax rate	1 %	— %
Income tax benefit	$ (160)	$ (120)

For the three months ended June 30, 2020, we recognized an immaterial income tax benefit, representing an effective tax rate of 1%. The difference between the statutory federal tax rate of 21% and the 1% effective tax rate for the three months ended June 30, 2020 was primarily attributable to the valuation allowance established against our current period losses generated. We have established a valuation allowance on our deferred tax assets to the extent that our existing taxable temporary differences would not be available as a source of income to realize the benefits of those deferred tax assets. The income tax benefit for the three months ended June 30, 2020 primarily related to state income taxes.

For the three months ended June 30, 2019, we recognized an immaterial income tax benefit, representing an effective tax rate of 0%. The difference between the statutory federal tax rate of 21% and the 0% effective tax rate for the three months ended June 30, 2019, was primarily attributable to the valuation allowance established against our current period losses generated and the non-deductible IPR&D expense related to the Perosphere acquisition.

Results of Operations - Six Months Ended June 30, 2020 and 2019

Revenues

Total net product sales for the six months ended June 30, 2020 and 2019 consisted of the following (in thousands except for percentages):

	Six Months Ended June 30,		2020 to 2019	
	2020	2019	$ Change	% Change
Product sales, net				
Feraheme	$ 74,068	$ 82,089	$ (8,021)	(10)%
Makena	45,888	61,534	(15,646)	(25)%
Intrarosa	4,385	9,291	(4,906)	(53)%
Other	(1,199)	133	(1,332)	<(100 %)
Total product sales, net	$ 123,142	$ 153,047	$ (29,905)	(20)%

Our total net product sales for the six months ended June 30, 2020 decreased by $29.9 million as compared to the same period in 2019, due primarily to decreases in Makena, Feraheme and Intrarosa net sales. We believe that the decrease in Makena net sales during the period was primarily driven by concern amongst health care providers caused by the unfavorable FDA Advisory Committee recommendation for Makena during the fourth quarter of 2019. The decrease in Feraheme net sales was driven by the negative impacts of COVID-19 during the second quarter of 2020 as COVID-19 protocols have restricted or discouraged patient access to hospitals, clinics and other sites where Feraheme is typically administered. Intrarosa net sales decreased as a result of the disposition of the product in May 2020.

Total gross product sales were offset by product sales allowances and accruals for the six months ended June 30, 2020 and 2019 as follows (in thousands, except for percentages):

	Six Months Ended June 30,				2020 to 2019	
	2020	Percent of gross product sales	2019	Percent of gross product sales	$ Change	% Change
Gross product sales	$ 414,735		$ 450,904		$ (36,169)	(8)%
Provision for product sales allowances and accruals:						
Contractual adjustments	253,036	61 %	237,526	53 %	15,510	7 %
Governmental rebates	38,557	9 %	60,331	13 %	(21,774)	(36)%
Total	291,593	70 %	297,857	66 %	(6,264)	(2)%
Product sales, net	$ 123,142		$ 153,047		$ (29,905)	(20)%

The increase in contractual adjustments as a percentage of gross product sales primarily related to a higher mix of business through commercial reimbursement channels and additional discounts offered to commercial entities. The decrease in governmental rebates as a percentage of gross product sales primarily related to changes in estimates related to prior periods during the six months ended June 30, 2019.

Costs and Expenses

Cost of Product Sales

Cost of product sales for the six months ended June 30, 2020 and 2019 were as follows (in thousands except for percentages):

	Six Months Ended June 30,		2020 to 2019	
	2020	2019	$ Change	% Change
Direct cost of product sales	$ 23,741	$ 34,881	$ (11,140)	(32)%
Amortization of intangible assets	18,798	7,886	10,912	>100 %
	$ 42,539	$ 42,767	$ (228)	
Direct cost of product sales as a percentage of net product sales	19 %	23 %		

Direct cost of product sales as a percentage of net product sales decreased from 23% to 19% during the first half of 2020 Direct cost of product sales for the three months ended June 30, 2019 included a $4.8 million one-time inventory write-down related to the Makena IM product. Excluding this one-time inventory write-down, direct cost of product sales as a percentage of net product sales remained consistent during the first half of 2020.

Amortization of intangible assets increased by $10.9 million from June 30, 2019 to June 30, 2020 due to accelerated amortization resulting from our reassessment and prospective adjustment of the useful lives of the Makena auto-injector developed technology, Intrarosa developed technology and Vyleesi developed technology intangible assets during the fourth quarter of 2019.

Research and Development Expenses

Research and development expenses for the six months ended June 30, 2020 and 2019 consisted of the following (in thousands except for percentages):

	Six Months Ended June 30,		2020 to 2019	
	2020	2019	$ Change	% Change
External research and development expenses	$ 10,225	$ 21,309	$ (11,084)	(52)%
Internal research and development expenses	9,218	11,737	(2,519)	(21)%
Total research and development expenses	$ 19,443	$ 33,046	$ (13,603)	(41)%

The $13.6 million decrease in research and development expenses incurred in the six months ended June 30, 2020 as compared to the same period in 2019 was primarily related to lower costs for Vyleesi following FDA approval in 2019.

Acquired In-Process Research and Development

During the six months ended June 30, 2019, we recorded $74.9 million for acquired IPR&D related to the acquisition of Perosphere.

Selling, General and Administrative Expenses

Selling, general and administrative expenses for the six months ended June 30, 2020 and 2019 consisted of the following (in thousands except for percentages):

	Six Months Ended June 30, 2020		2020 to 2019	
	2020	2019	$ Change	% Change
Compensation, payroll taxes and benefits	$ 51,443	$ 59,383	$ (7,940)	(13)%
Professional, consulting and other outside services	35,274	85,663	(50,389)	(59)%
Fair value of contingent consideration liability	—	(21)	21	(100)%
Equity-based compensation expense	5,549	6,981	(1,432)	(21)%
Total selling, general and administrative expenses	$ 92,266	$ 152,006	$ (59,740)	(39)%

Total selling, general and administrative expenses decreased by $59.8 million in the six months ended June 30, 2020 as compared to the same period in 2019, primarily driven by decreases in marketing spend related to our women's health products and reduced compensation related costs as a result of the May 2020 restructuring.

Impairment of Intangible Assets in 2019

During the six months ended June 30, 2019, we discontinued the Makena IM products and recorded a $77.4 million impairment charge for the Makena base technology intangible asset, which related to the Makena IM products.

Gain on Sale of Assets

During the six months ended June 30, 2020, we recognized a gain on the sale of all of our rights to Intrarosa of $14.4 million. The gain recognized is net of transaction fees of $2.5 million and the carrying value of the Intrarosa assets and other costs of $4.0 million.

Restructuring Expense

In May 2020, we completed a restructuring to reduce the size of our organization in conjunction with the divestiture of Intrarosa and Vyleesi and expected declines in our revenue due to the COVID-19 pandemic. Approximately 110 employees were displaced through this workforce reduction. We recorded a restructuring charge of $8.2 million primarily related to severance and related benefits in the second quarter of 2020 and expect the restructuring charges incurred to date under this program to be substantially paid in cash by the end of the second quarter of 2021. We estimate total savings from the restructuring in 2020 will be approximately $13.1 million.

In February 2019, we completed a restructuring to combine our women's health and maternal health sales forces into one integrated sales team, which promoted Intrarosa, the Makena auto-injector and following approval, Vyleesi. Approximately 110 employees were displaced through this workforce reduction. We recorded a restructuring charge of $7.4 million primarily related to severance and related benefits in the first quarter of 2019. These restructuring charges were substantially paid in cash as of the end of the first quarter of 2020 and will be fully paid in cash by the end of the first quarter of 2021. For additional information on restructuring expenses, see Note R, "*Restructuring Expenses*" to our condensed consolidated financial statements included in this Quarterly Report on Form 10-Q.

Other Expense, Net

Other expense, net for the six months ended June 30, 2020 increased by $1.6 million primarily due to a decrease in interest and dividend income and an increase in interest expense.

Income Tax Benefit

The following table summarizes our effective tax rate and income tax benefit for the six months ended June 30, 2020 and 2019 (in thousands except for percentages):

	Six Months Ended June 30,	
	2020	2019
Effective tax rate	— %	— %
Income tax benefit	$ (60)	$ (257)

For the six months ended June 30, 2020, we recognized an immaterial income tax benefit representing an effective tax rate of 0%. The difference between the statutory federal tax rate of 21% and the 0% effective tax rate for the six months ended June 30, 2020 was primarily attributable to the valuation allowance established against our current period losses generated. We have established a valuation allowance on our deferred tax assets to the extent that our existing taxable temporary differences would not be available as a source of income to realize the benefits of those deferred tax assets. The income tax benefit for the six months ended June 30, 2020 primarily related to state income taxes.

For the six months ended June 30, 2019, we recognized an immaterial income tax benefit, representing an effective tax rate of 0%. The difference between the statutory federal tax rate of 21% and the 0% effective tax rate for the six months ended June 30, 2019, was primarily attributable to the valuation allowance established against our current period losses generated and the non-deductible IPR&D expense related to the Perosphere acquisition.

Liquidity and Capital Resources

General

We currently finance our operations primarily from cash generated from our operating activities, including sales of our commercialized products. Cash, cash equivalents, marketable securities and certain financial obligations as of June 30, 2020 and December 31, 2019 consisted of the following (in thousands except for percentages):

	June 30, 2020	December 31, 2019	$ Change	% Change
Cash and cash equivalents	$ 98,521	$ 113,009	$ (14,488)	(13)%
Marketable securities	48,594	58,742	(10,148)	(17)%
Total	$ 147,115	$ 171,751	$ (24,636)	(14)%
Outstanding principal on 2022 Convertible Notes	$ 320,000	$ 320,000	$ —	— %
Total	$ 320,000	$ 320,000	$ —	— %

Cash Flows

The following table presents a summary of the primary sources and uses of cash for the six months ended June 30, 2020 and 2019 (in thousands):

	June 30, 2020	June 30, 2019	$ Change
Net cash used in operating activities	$ (43,442)	$ (96,452)	$ 53,010
Net cash provided by investing activities	29,666	29,698	(32)
Net cash used in financing activities	(712)	(36,041)	35,329
Net decrease in cash, cash equivalents, and restricted cash	$ (14,488)	$ (102,795)	$ 88,307

Operating Activities

Cash flows from operating activities represented the cash receipts and disbursements related to all of our activities other than investing and financing activities. We have historically financed our operating and capital expenditures primarily through cash flows earned through our operations. We expect cash provided by operating activities, in addition to our cash, cash equivalents and marketable securities, will continue to be a primary source of funds to finance operating needs and capital expenditures.

Operating cash flow is derived by adjusting our net income (loss) for:

- Non-cash operating items, such as depreciation and amortization and equity-based compensation; and

- Changes in operating assets and liabilities, which reflect timing differences between the receipt and payment of cash associated with transactions and when they are recognized in results of operations.

For the period ended June 30, 2020 compared to June 30, 2019, net cash flows used in operating activities decreased by $53.0 million, driven primarily by a decrease in net loss as adjusted for non-cash charges of $102.0 million, partially offset by a $49.0 million increase due to changes in operating assets and liabilities. Included within net loss for the period ended June 30, 2019 was $74.9 million of acquired IPR&D expense related to the Perosphere asset acquisition, of which $60.8 million was paid in cash during the first quarter of 2019.

Investing Activities

Cash flows provided by investing activities was $29.7 million for the six months ended June 30, 2020 due primarily to net proceeds from maturities of marketable securities of $10.4 million and net proceeds of $19.3 million from the sale of assets. Cash provided by investing activities for the six months ended June 30, 2019 was $29.7 million due net proceeds from sales of marketable securities of $31.6 million offset by capital expenditures of $1.9 million.

Financing Activities

Cash used in financing activities was $0.7 million for the six months ended June 30, 2020 due to $1.3 million for payments of employee tax withholdings related to equity based compensation offset by $0.6 million of proceeds from the issuance of common stock under the ESPP. Cash used in financing activities for the six months ended June 30, 2019 was $36.0 million primarily due to the repayment of the $21.4 million balance of our 2019 convertible notes, $13.7 million for common stock repurchases and $1.7 million for payments of employee tax withholdings related to equity based compensation.

Future Liquidity Considerations

We believe that our cash, cash equivalents and marketable securities as of June 30, 2020, and the cash we expect to receive from sales of our products, will be sufficient to fund our current operating plans and capital expenditure requirements for at least twelve months from the date of issuance of these financial statements.

We generated negative cash flows from operations during the six months ended June 30, 2020 and during the year ended December 31, 2019. Our expected cash flows from operations between now and June 1, 2022, the maturity date of our 2022 Convertible Notes will be insufficient to settle these Convertible Notes. We therefore expect that we will need to issue new securities, in the form of debt, equity or equity-linked, or some combination thereof, and it may be challenging for us to do so on favorable terms in light of the impact of COVID-19 on the global economy and financial markets.

Notwithstanding the above, given the uncertainties around the severity and duration of COVID-19, our forecasted cash flows for the remainder of 2020 could be adversely impacted if actual events differ from our estimates.

For a detailed discussion regarding the risks and uncertainties related to our liquidity and capital resources and to the potential impact of the COVID-19 pandemic, please refer to our Risk Factors in Part I, Item 1A of our Annual Report and in Part II, Item IA of this Quarterly Report on Form 10-Q.

Borrowings and Other Liabilities

In the second quarter of 2017, we issued $320.0 million aggregate principal amount of convertible senior notes due 2022 (the “2022 Convertible Notes”), as discussed in more detail in Note Q, “*Debt*,” to our condensed consolidated financial statements included in this Quarterly Report on Form 10-Q. The 2022 Convertible Notes are senior unsecured obligations and bear interest at a rate of 3.25% per year, payable semi-annually in arrears on June 1 and December 1 of each year, beginning on December 1, 2017. The 2022 Convertible Notes will mature on June 1, 2022, unless earlier repurchased or converted. Upon conversion of the 2022 Convertible Notes, such 2022 Convertible Notes will be convertible into, at our election, cash, shares of our common stock, or a combination thereof, at a conversion rate of 36.5464 shares of common stock per $1,000 principal amount of the 2022 Convertible Notes, which corresponds to an initial conversion price of approximately $27.36 per share of our common stock. The conversion rate is subject to adjustment from time to time. The 2022 Convertible Notes were not convertible as of June 30, 2020.

Share Repurchase Program

As of January 1, 2020, we had $26.8 million available under the share repurchase program initially approved by our Board of Directors in January 2016, which was updated in March 2019 to permit the repurchase of up to an aggregate of $80.0 million

in shares of our common stock. During the six months ended June 30, 2020, we did not repurchase shares of common stock under this program. As of June 30, 2020, $26.8 million remained available for future repurchases under this program.

Off-Balance Sheet Arrangements

As of June 30, 2020, we did not have any off-balance sheet arrangements as defined in Regulation S-K, Item 303(a)(4)(ii).

Impact of Recently Issued and Proposed Accounting Pronouncements

See Note T, "*Recently Issued and Proposed Accounting Pronouncements*," to our condensed consolidated financial statements included in this Quarterly Report on Form 10-Q for information regarding new accounting pronouncements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk:

There have been no material changes with respect to the information appearing in Part II, Item 7A, "Quantitative and Qualitative Disclosures About Market Risk," in our Annual Report.

Item 4. Controls and Procedures:

Managements' Evaluation of our Disclosure Controls and Procedures

Our principal executive officer and principal financial officer, after evaluating the effectiveness of our "disclosure controls and procedures" (as defined in the Exchange Act Rule 13a-15(e), or Rule 15d-15(e)), with the participation of our management, have each concluded that, as of the end of the period covered by this Quarterly Report on Form 10-Q, our disclosure controls and procedures were not effective due to the material weakness in internal control over financial reporting described below.

During the second quarter of 2020, we identified a material weakness in our internal control over financial reporting related to ensuring the timely recognition of our gross-to-net ("GTN") adjustments for certain governmental rebates and the related accruals. Specifically, we did not design and maintain controls to allow for an effective review of disputed claims related to certain government rebate arrangements, where the decision has been made to initially not record and accrue for such items, to assess whether and when the need to record an accrual is required for such claims.

A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of the Company's annual or interim financial statements will not be detected on a timely basis. Although the identified governmental rebate and accrual event was immaterial to our financial statements in the impacted time periods, we determined that there was a risk that a similar event could have occurred without being prevented or detected on a timely basis that could have given rise to a potentially material misstatement in our financial statements or disclosures.

We have already taken certain steps and will take additional steps to remediate this material weakness, including the development of enhanced controls governing our GTN adjustments for governmental rebates and accruals.

Our remediation efforts are intended to address the identified material weakness. Management is committed to continuous improvement of our internal control over financial reporting and will continue to diligently review our internal control over financial reporting.

Changes in Internal Control Over Financial Reporting

Other than the material weakness described above, there were no changes in our internal control over financial reporting (as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) that occurred during the three months ended June 30, 2020 that have materially affected, or that are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings:

See Note O, "*Commitments and Contingencies*," to our condensed consolidated financial statements included in this Quarterly Report on Form 10-Q for information regarding our legal proceedings, including how we accrue liabilities for legal contingencies.

Item 1A. Risk Factors:

With the exception of the risk factors below, there have been no material changes from the Risk Factors disclosed in Part I, Item 1A, of our Annual Report.

The scale and scope of the novel coronavirus ("COVID-19") pandemic is unknown and continues to rapidly evolve. It has caused unprecedented disruption to global economies and poses a significant threat to the healthcare industry and infrastructure throughout the world, which has had and could continue to have a negative impact on our business.

The global spread of COVID-19 has created significant volatility, uncertainty and economic disruption on a global scale, including in the United States, where we market Feraheme and Makena, where our operations and employees reside and where we conduct clinical trials. The extent to which the COVID-19 pandemic impacts our business, operations and financial results will depend on numerous evolving factors that we may not be able to accurately predict, including:

- the duration and scope of the pandemic;
- governmental, business and individuals' protocols and actions that have been and continue to be taken in response to the pandemic;
- the impact of the pandemic on economic activity and actions taken in response;
- the effect on patients, healthcare providers and business partners;
- demand for our products, including as a result of reduced patient visits to healthcare providers, travel restrictions, social distancing, quarantines and other containment measures;
- uncertainty as to when we will be able to initiate our clinical trials, particularly at clinical trial sites located in highly impacted geographies and as a result of disruptions with our CROs;
- the ability to obtain, deliver or distribute sufficient and timely supplies if the production capabilities of manufacturers and suppliers or transportation (including with our CMOs and 3PLs) is disrupted;
- our access to the debt and equity markets, including our ability to enter into a restructuring transaction for our 2022 Convertible Notes, on satisfactory terms, or at all;
- disruptions in regulatory oversight and actions if regulators and industry professionals are expending significant and unexpected resources addressing COVID-19;
- any impact on our rebate payment liability, including as a result of any changes in the terms or mix of coverage and reimbursement from government and health administration authorities, private health insurers and other third-party payors; and
- any closures of our and our partners' offices, operations and facilities.

For example, we have observed a decline in Feraheme and Makena sales, as COVID-19 protocols have restricted or discouraged patient access to hospitals, clinics, physicians' offices and other sites where Feraheme and Makena are typically administered and caused a re-prioritization of healthcare services. Further, although we have implemented remote selling tactics, such initiatives may not be as successful as traditional, in-person interactions.

In addition, as a result of COVID-19 pandemic, the initiation of our planned ciraparantag Phase 2b trial was delayed due to site shutdowns and an inability to enroll while COVID-19 protocols were in place. Due to the continuing impact of COVID-19, the study may be further delayed or take longer than anticipated. For example, COVID-19 might present further challenges if study candidates are hesitant to enroll because of concerns over the contagiousness of COVID-19 or if additional screening criteria will need to be effectuated. As a result, we expect delays in our clinical program, but due to the uncertainties caused by COVID-19, the scope of the delay is presently unknown.

Although we have taken steps to mitigate risks related to the COVID-19 pandemic on our employees, including by implementing a work from home policy for all employees, such efforts are vulnerable to disruptions that may occur if the digital infrastructures are insufficient to accommodate the increased usage as social distancing is implemented on a global scale.

The scope and scale of COVID-19 is unprecedented and its duration and impact cannot be predicted with any certainty. Its impact could have a material and adverse impact on our revenues and operations, which could cause a decline in our stock price. To the extent the COVID-19 pandemic adversely affects our business and financial results, it may also have the effect of

heightening many of the other risks described in this "Risk Factors" section and in the "Risk Factors" section of our Annual Report on Form 10-K, including, in particular, risks related to the timelines for our development programs, risks related to our ability to successfully complete the divestiture of our women's health business, risks related to our ability to achieve and/or maintain profitability, and risks related to our complete dependence on third parties for the manufacture of our products.

Actions that we have taken to streamline our business, including divestitures of Intrarosa® (prasterone) and Vyleesi® (bremelanotide injection) and our recent workforce reductions, may not be as effective as anticipated and could have a negative impact on our results of operations.

As previously disclosed, we implemented a workforce reduction as a result of the divestiture of Intrarosa and Vyleesi and the impact of COVID-19. We undertook this workforce reduction in an effort to streamline our business, reduce expenses and conserve cash.

However, there can be no assurance that these efforts will result in the expected cost-cutting and cash-savings, or otherwise create any shareholder value. These undertakings were and may continue to be disruptive to our operations, particularly given the challenges posed by the COVID-19 pandemic, including by distracting management from our core business, exposing us to employment-related lawsuits, affecting employee productivity and morale, or impacting our ability to hire or retain key personnel, any of which could, in turn materially and adversely impact our operations. Further, we are accustomed to operating as a larger enterprise and may face challenges in scaling our operations and balance sheet to manage our more streamlined business, including by over or under estimating the amount of support the various functions of our business will require. In addition, such actions could impair our development, marketing, sales and patient support efforts or alter our product development plans, and could make it more difficult for us to deploy resources towards business development, or financial or other strategic, opportunities.

The divestitures also involve additional risks associated with the separation of operations, services, products and personnel, including our obligations to provide transitional services for a period of time after closing. The divestiture and the provision of transitional services, could divert management's attention or otherwise disrupt our business, or we may not provide such transitional services to the satisfaction of the transferee. Such consequences, and any unanticipated consequences, of our recent divestiture and work force reduction could have a material and adverse effect on our stock price, particularly if shareholders are not supportive of our streamlined business approach.

We have limited experience with development stage products and cannot ensure that we will be successful in gaining approval of ciraparantag and any product candidates that may be added to our pipeline, on a timely basis, or at all, and even if approved, we may not be successful in commercializing such products. Additionally, any approvals that we do obtain may contain unexpected restrictions on the use or distribution of such products imposed by the FDA or other regulatory agencies, which could adversely and materially affect our long-term success.

Our long-term success and ability to sustain and grow revenue depends upon our ability to continue to successfully acquire, in-license, out-license and develop product candidates. Drug development is inherently risky, time consuming, unpredictable and costly. The FDA and other regulatory agencies, such as the European Medicines Agency (the "EMA") or the Medicines and Healthcare Products Regulatory Agency (the "MHRA") where our license partners will seek approval, each imposes substantial requirements on the development of such candidates to become eligible for marketing approval and has substantial discretion in the approval process.

We currently have one product candidate in development in our pipeline: ciraparantag, which is in development for patients treated with novel oral anticoagulants or low molecular weight heparin when reversal of the anticoagulant effect of these products is needed for emergency surgery, urgent procedures or due to life-threatening or uncontrolled bleeding.

Any failure, delay or setback in obtaining regulatory approval for this product candidate, or setback resulting from our inability to sufficiently fund or otherwise support our pipeline through approval, including as a result of the COVID-19 pandemic, could adversely affect our ability to maintain or grow our business and leverage our product portfolio, and the future prospects of our business could be materially adversely affected.

The approval of our current or future product candidates for commercial sale in the U.S. or by our license partners outside the U.S. could be delayed, limited or denied or we may be required to conduct additional studies for a number of reasons, including, but not limited to, that:

- The FDA or other regulatory agencies may determine that our product candidates do not demonstrate safety and efficacy in accordance with regulatory agency standards based on a number of considerations, including adverse medical events that are reported during the trials;

- The FDA or other regulatory agencies could analyze and/or interpret data from clinical trials and preclinical testing in different ways than we or our partners interpret them and determine that our data is insufficient for approval;

- The FDA or other regulatory agencies may require more information, including additional preclinical or clinical data or trials, to support approval;

- Devices we may use in combination with our products may not be adequate or may not be considered adequate by the FDA or other regulatory agencies, such as the coagulometer we intend to use in the Phase 2 and Phase 3 clinical programs for ciraparantag;

- The FDA or other regulatory agencies could determine that our manufacturing processes are not properly designed, are not conducted in accordance with federal or other applicable laws or otherwise not properly managed, and we may be unable to establish, and obtain FDA or other regulatory approval for, a commercially viable manufacturing process for our product candidates in a timely manner, or at all;

- The supply or quality of our product candidates for our clinical trials may be insufficient, inadequate or delayed, or we may not be able to obtain sufficient or consistent supply for clinical trials that we or our license partners need to conduct;

- The size of the patient population required to establish the efficacy of our product candidates to the satisfaction of the FDA or other regulatory agencies may be larger than we anticipated;

- The failure of clinical investigational sites and the records kept at such sites, including the clinical trial data, to be in compliance with the FDA's current good clinical practices regulations ("cGCP"), including the failure to pass FDA or other regulatory agencies inspections of clinical trial sites;

- The FDA or other regulatory agencies may change their approval policies or adopt new regulations;

- The FDA or other regulatory agencies may not be able to undertake reviews or approval processes in a timely fashion;

- The results of the earlier clinical trials may not be representative of our future, larger trials, particularly since the presumed mechanism of action for certain of our products is not known or understood; for instance, ciraparantag has only been studied in a small number of healthy volunteers;

- The FDA or other regulatory agencies may not agree with our regulatory approval strategies or components of our regulatory filings, such as the design or implementation of our clinical trials; for instance, we are relying on precedent to estimate the number of patients required in our Phase 3 ciraparantag trial prior to filing the New Drug Application ("NDA"), and the FDA may not agree with our approach and our other expectations for these clinical trials may not ultimately be approved by the FDA; or

- A product may not be approved for the indications that we request.

In addition to the risks described above, development programs can face specific challenges depending on the nature of the patient population, the potential indications, and the science involved. For example, our ciraparantag program faces certain risks, including:

- The timing and/or complexity of our upcoming Phase 2b study could be negatively impacted for a number of reasons, including (i) due to the FDA requirement that we use a manual whole blood clotting time ("WBCT") in addition to the automated coagulometer, which is a difficult and time-consuming process; (ii) if the FDA requires us to explore additional dosing; (iii) if we do not get agreement from the Center for Drug Evaluation and Research ("CDER") on our Phase 2b protocol in a timely manner, which would delay the Investigational Device Exception ("IDE") submission and approval timeline; (iv) due to the continuing impact of COVID-19 pandemic, the scope of which is presently unknown and difficult to predict, initiation of the Phase 2b study may be further delayed, or the study may take longer than anticipated; or (v) if the validation study required by the Center for Devices and Radiological Health ("CDRH") to obtain the IDE for the coagulometer is delayed or takes longer than anticipated, including as a result of the continuing impact of the COVID-19;

- The coagulometer that we intend to use in the ciraparantag Phase 2 and Phase 3 trials has not yet received IDE approval or been used in clinical trials and therefore, the FDA may (i) determine that the device is not effective in measuring WBCT, and/or (ii) not grant the IDE, which is necessary prior to the use of the coagulometer in our clinical

trials; in such circumstances, ciraparantag may not receive regulatory approval or its approval would be delayed. Moreover, the FDA may only approve ciraparantag in conjunction with the use of the coagulometer (i.e. as a companion diagnostic), which could affect the commercial viability of ciraparantag;

- Our NDA or other regulatory filings for ciraparantag could be delayed if (i) we are not able to gain agreement with the FDA or other regulatory authority on CMC, clinical pharmacology or our pre-clinical program, including if the FDA or other regulatory authority requires us to conduct potential additional trials prior to commencing the Phase 3 program; (ii) if we are not eligible for the accelerated approval pathway or the FDA or other regulatory agency requires more patient data before filing than anticipated; or (iii) if the FDA or other regulatory agency requires additional Phase 3 trials; and

- Even if approved, ciraparantag may not be approved with all three direct oral anticoagulants ("DOACs") as well as Lovenox® (enoxaparin sodium injection), a low molecular weight heparin ("LMWH"), which could affect market acceptance and revenue.

In addition, share prices have declined significantly in certain instances where companies have failed to obtain FDA approval of a product or where the timing of FDA approval is delayed. If we are required to conduct additional studies or our studies take longer than anticipated, our share price could decline significantly. Further, the market for products that address unmet medical needs is highly speculative and if we have over-estimated the market opportunity for any of our products or product candidates, or if we are unsuccessful in gaining market share, then our business and results of operations could be materially and adversely affected.

Even if regulatory approval is granted by the FDA to market our current or future product candidates, the FDA may impose limitations on the indicated use for which the drug product may be marketed or require additional post-approval clinical trials or other requirements with which we would need to comply in order to maintain approval of these products. The occurrence of any of these scenarios could materially harm the commercial prospects of our product candidates and our business could be seriously harmed, particularly in light of our streamlined product portfolio.

We have recently identified a material weakness in our internal control over financial reporting; this material weakness and any we identify in the future could negatively impact the trading price of our stock and could make it more challenging to meet our reporting obligations.

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

We regularly review and update our internal controls, disclosure controls and procedures, and corporate governance policies. In addition, we are required under the Sarbanes-Oxley Act of 2002 to report annually on our internal control over financial reporting. Any system of internal controls, however well designed and operated, is based in part on certain assumptions and can provide only reasonable, not absolute, assurances that the objectives of the system are met. If we, or our current or former independent registered public accounting firm, determine that our internal control over our financial reporting is not effective, or we discover areas that need improvement in the future, or if we continue to experience high turnover of our personnel in our financial reporting functions, these shortcomings could have an adverse effect on our business and financial results, and the price of our common stock could be negatively affected. If we cannot conclude that we have effective internal controls over our financial reporting, or if we are unable to timely and adequately remediate material weaknesses, which could lead to our independent registered public accounting firm being unable to provide an unqualified opinion, or needing to amend or withdraw a previously issued opinion, regarding the effectiveness of our internal control over financial reporting, it could result in errors in our financial statements or delays or failures to comply with reporting requirements or investors could lose confidence in the reliability of our financial statements, which could lead to a decline in our stock price and potential claims by investors regarding the adequacy of our disclosures. Failure to comply with reporting requirements could subject us to sanctions and/or investigations by the U.S. Securities and Exchange Commission, NASDAQ or other regulatory authorities.

For example, during the second quarter of 2020 we identified a material weakness in our internal control over financial reporting related to ensuring the timely recognition of our gross-to-net ("GTN") adjustments for certain governmental rebates and the related accruals. Specifically, we did not design and maintain controls to allow for an effective review of disputed claims related to certain government rebate arrangements, where the decision has been made to initially not record and accrue for such items, to assess whether and when the need to record an accrual is required for such claims. Although we have already taken certain steps and will take additional steps to remediate this material weakness, including the development of enhanced controls of our GTN adjustments for governmental rebates and accruals, such remediation efforts may take longer to implement than expected, or may be inadequate to remedy the weakness. In addition, our conclusion that we have a material weakness could give rise to increased scrutiny, review, audit and investigation over our accounting controls and procedures, which could

uncover additional areas of deficiency or errors in our financial statements. Additionally, until we file our amended Annual Report on Form 10-K for the year ended December 31, 2019, which timing we are unable to predict, our ability to access the capital markets and utilize registration statements could be negatively impacted, which could have a material and adverse impact on our business.

Our existing collaborations, including with Norgine B.V. ("Norgine"), are important to our business, and future collaborations may also be important to us. If we are unable to maintain any of these collaborations, or if these collaborations are not successful, our business could be adversely affected.

We have limited capabilities for drug development and approval outside of the U.S. and do not have any capability for sales, marketing or distribution outside the U.S. Accordingly, we have entered into a License and Collaboration Agreement with Norgine pursuant to which AMAG and Norgine will collaborate on the Phase 3 development of ciraparantag, and Norgine will seek regulatory approval for, market and sell ciraparantag in certain countries in Europe, Australia and New Zealand. In the future, we may enter into additional collaborations for the development, marketing or sale of ciraparantag or our other products in the U.S. or abroad. We must work effectively and collaboratively with our collaboration partners to develop, market and/or sell our products, and if we cannot do so effectively, disagreements could arise. Such disagreements could delay the related program or result in distraction or expensive arbitration or litigations, which may not be resolved in our favor.

Our license agreement with Norgine contains complex provisions and imposes diligence, development and other obligations on us and provides Norgine with certain consent rights that restrict our ability to make changes to our development plan or priorities. If we fail to comply with our obligations or are unable to reach agreement with Norgine on changes to the development plan, the ciraparantag development program may be delayed, our costs may be significantly greater than anticipated, or Norgine may have the right to terminate the license agreement. For example, we are required to use commercially reasonable efforts to conduct a Phase 3 clinical program for ciraparantag that is sufficient to support the filing for regulatory approval with the FDA, EMA and MHRA. If we and Norgine do not agree, or the agencies do not agree, on the appropriate design, or the EMA and MHRA impose different or more rigorous requirements for the Phase 3b trial than required by the FDA, our ability to complete the Phase 3 trial and obtain regulatory approval from the FDA may be delayed or cost significantly more than anticipated. If we disagree on the development plan or Norgine does not think that we have used the appropriate level of effort, a disagreement could arise that might cause delay, might lead to additional responsibilities for us beyond those anticipated, or might result in litigation or arbitration, any of which would be time-consuming and expensive.

Similarly, under the terms of the option agreement with Velo Bio, LLC ("Velo"), pursuant to which we acquired the global rights to the AMAG-423 program, we are required to use commercially reasonable efforts to develop and commercialize AMAG-423. As discussed above, based on an interim analysis of the data in the AMAG-423 Phase 2b/3a trial, the study's independent Data Safety Monitoring Board unanimously recommended to stop the study based upon the low likelihood that future enrollment would demonstrate a benefit of AMAG-423 in women with severe preeclampsia. Following such recommendation, we decided to stop the AMAG-423 Phase 2b/3a trial. However, if Velo believes that we are not complying with our obligations, a dispute may arise and we may be subject to litigation, which would be time-consuming and expensive.

Under the terms of the agreement with Norgine, we are required to supply Norgine with its requirements of clinical and commercial supply of ciraparantag. However, we rely on third parties to manufacture ciraparantag, and if we fail to enter into commercial supply agreements with such parties by a time specified in our agreement with Norgine, or we fail to supply Norgine in accordance with the terms of the license agreement, or we materially breach the supply agreement to be entered into with Norgine, or the supply price of ciraparantag exceeds certain benchmarks, Norgine could elect to obtain their own supplier, in which case we would be responsible for reimbursing them for certain costs of obtaining such supplier, which could be substantial in certain circumstances, and we may be subject to minimum penalties under our own supply arrangements. Additionally, we may be required to implement changes in our manufacturing process to meet the requirements of certain regulatory agencies in the licensed territory, which may be different from the FDA's requirements, and could be costly, time intensive, or constrain the amount of supply that our third-party manufacturer can manufacture for the U.S.

In addition, we rely on Norgine, and may in the future rely on other partners in various respects, including obtaining regulatory approval for and commercializing our products. We do not control our partners, and cannot ensure that they will adequately and timely perform all of their obligations to us. We cannot guarantee the satisfactory performance of any of our partners, and if our current or future collaborations do not result in the successful development and commercialization of products, or if one of our collaborators does not commit sufficient resources to the marketing and distribution of our product after achieving regulatory approval, or if one of our collaborators terminates its agreement with us, we may not receive all or any of the future research funding or milestone or royalty payments under the collaboration. If we do not receive the funding we expect under these agreements, our development of our current or future product candidates could be delayed or we may not have sufficient resources to market our approved products, and we may need additional resources to develop and

commercialize our products and product candidates. In addition, if any of our partners fail to comply with regulatory requirements regarding the development, distribution or marketing of a product or product candidate, or infringes the intellectual property rights of third parties, we may be exposed to regulatory action or litigation, which would be time consuming and expensive. All of the risks relating to product development, regulatory approval and commercialization described in our Annual Report on Form 10-K and this Quarterly Report on Form 10-Q also apply to the activities of our therapeutic collaborators.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds:

The following table provides certain information with respect to our purchases of shares of our stock during the three months ended June 30, 2020.

Period	Total Number of Shares Purchased [1]	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs [2]	Maximum Number of Shares (or approximate dollar value) That May Yet Be Purchased Under the Plans or Programs [2]
April 1, 2020 through April 30, 2020	2,240	$ 6.64	—	3,331,864
May 1, 2020 through May 31, 2020	12,620	7.29	—	3,470,152
June 1, 2020 through June 30, 2020	1,037	8.47	—	3,497,368
Total	15,897	$ 7.28	—	

(1) Includes the surrender of shares of our common stock withheld by us to satisfy the minimum tax withholding obligations in connection with the vesting of restricted stock units held by our employees.

(2) We did not repurchase shares of our common stock during the second quarter of 2020. We have repurchased and retired $53.2 million of our common stock under our share repurchase program through June 30, 2020. These shares were purchased pursuant to a repurchase program initially approved by our Board of Directors in January 2016, which was updated in March 2019 to permit the repurchase of up to $80.0 million of our common stock, of which $26.8 million remained authorized for repurchase as of June 30, 2020. The repurchase program does not have an expiration date and may be suspended for periods or discontinued at any time.

Item 5. Other Information:

Subsequent to the issuance of our Form 10-Q for the quarter ended March 31, 2020, management identified certain individually immaterial errors aggregating to $6.3 million related to governmental rebate accruals associated with Makena sales from 2016 through the first quarter of 2020.

From 2016 through 2019, we understated our GTN adjustments for governmental rebates and the related accrual for a certain state program and for the quarter ended March 31, 2020, we overstated these amounts. We concluded that the errors were not material to any prior annual or interim period; however, we determined that correcting the aggregate error would be material to the current period. As a result, we have revised our historical financial statements to properly reflect GTN adjustments and the related accrual in the appropriate periods.

The effect of the corrections to our consolidated balance sheet for the year ended December 31, 2018 was as follows (in thousands:

	December 31, 2018		
	As reported	Adjustment	As adjusted
Accrued expenses	$ 129,537	$ 5,098	$ 134,635
Accumulated deficit	$ (542,442)	$ (5,098)	$ (547,540)

The effect of the corrections to our consolidated statements of operations for the years ended December 31, 2019, 2018 and 2017 are as follows (in thousands, except per share amounts):

	Year Ended December 31, 2019			Year Ended December 31, 2018			Year Ended December 31, 2017		
	As reported	Adj	As adjusted	As reported	Adj	As adjusted	As reported	Adj	As adjusted
Product sales, net	$ 311,190	$ (1,205)	$ 309,985	$ 473,852	$ (1,954)	$ 471,898	$ 495,645	$ (1,802)	$ 493,843
Total revenues	327,751	(1,205)	326,546	474,002	(1,954)	472,048	495,769	(1,802)	493,967
Net loss	$ (466,456)	$ (1,205)	$ (467,661)	$ (65,761)	$ (1,954)	$ (67,715)	$ (199,228)	$ (1,802)	$ (201,030)
Basic net loss per share	$ (13.71)	$ (0.03)	$ (13.74)	$ (1.91)	$ (0.06)	$ (1.97)	$ (5.71)	$ (0.05)	$ (5.76)
Diluted net loss per share	$ (13.71)	$ (0.03)	$ (13.74)	$ (1.91)	$ (0.06)	$ (1.97)	$ (5.71)	$ (0.05)	$ (5.76)

The effect of the corrections to our condensed consolidated statements of operations for the three months ended March 31, 2019, September 30, 2019 and December 31, 2019 are as follows (in thousands, except per share amounts):

	Three Months Ended March 31, 2019			Three Months Ended September 30, 2019			Three Months Ended December 31, 2019		
	As reported	Adj	As adjusted	As reported	Adj	As adjusted	As reported	Adj	As adjusted
Product sales, net	$ 75,729	$ (316)	$ 75,413	$ 84,107	$ (323)	$ 83,784	$ 73,378	$ (224)	$ 73,154
Total revenues	75,804	(316)	75,488	84,131	(323)	83,808	89,707	(224)	89,483
Net loss	$ (122,084)	$ (316)	$ (122,400)	$ (23,617)	$ (323)	$ (23,940)	$ (199,928)	$ (224)	$ (200,152)
Basic and diluted net loss per share	$ (3.54)	$ (0.01)	$ (3.55)	$ (0.70)	$ (0.01)	$ (0.71)	$ (5.89)	$ (0.01)	$ (5.90)

The effect of the corrections to our condensed consolidated statements of operations for the three months ended March 31, 2020 are as follows (in thousands, except per share amounts):

	Three Months Ended March 31, 2020		
	As reported	Adjustment	As adjusted
Product sales, net	$ 68,628	$ 1,783	$ 70,411
Total revenues	68,661	1,783	70,444
Net loss	$ (24,491)	$ 1,783	$ (22,708)
Basic and diluted net loss per share	$ (0.72)	$ 0.05	$ (0.67)

The consolidated statements of other comprehensive loss for the years ended December 31, 2019, 2018 and 2017 have been revised to include the changes to “net loss” summarized above.

The consolidated statements of stockholders’ equity for the years ended December 31, 2019, 2018 and 2017 have been revised to include the changes to “net loss” summarized above as well as an increase of $1.3 million to the beginning “accumulated deficit” as of January 1, 2017, representing the accumulated error through that date.

The impact on our consolidated statements of cash flows for the years ended December 31, 2019, 2018 and 2017, was limited to the offsetting correction between “net loss” and changes in “accounts payable and accrued expenses” presented within “net cash used in operating activities” in each year, as summarized in the above tables.

Item 6. Exhibits:

Exhibit Number	Description
10.1	Asset Purchase Agreement, dated May 21, 2020, by and between AMAG Pharmaceuticals, Inc. and Millicent Pharma Limited (incorporated herein by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed May 22, 2020)
10.2	Employment Agreement by and between AMAG Pharmaceuticals, Inc. and Scott Myers effective as of April 28, 2020 (incorporated herein by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed April 28, 2020)
31.1+	Certification Pursuant to Rule 13a-14(a)/15d-14(a) of the Exchange Act, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2+	Certification Pursuant to Rule 13a-14(a)/15d-14(a) of the Exchange Act, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1++	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2++	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.SCH+	Inline XBRL Taxonomy Extension Schema Document
101.CAL+	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB+	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE+	Inline XBRL Taxonomy Extension Presentation Linkbase Document
101.DEF+	Inline XBRL Taxonomy Extension Definition Linkbase Document
104+	Cover Page Interactive Data File (formatted as inline XBRL with applicable taxonomy extension information contained in Exhibits 101.*)

\+ Exhibits marked with a plus sign ("+") are filed herewith.

++ Exhibits marked with a double plus sign ("++") are furnished herewith.

SIGNATURES

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

AMAG PHARMACEUTICALS, INC.

By: /s/ Scott D. Myers

Scott D. Myers

President and Chief Executive Officer
(Principal Executive Officer)

Date: August 17, 2020

AMAG PHARMACEUTICALS, INC.

By: /s/ Brian Piekos

Brian Piekos

Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)

Date: August 17, 2020

Exhibit 31.1

CERTIFICATIONS

I, Scott D. Myers, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of AMAG 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(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

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

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

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

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

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

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

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

Date: August 17, 2020

/s/ Scott D. Myers

Scott D. Myers

President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATIONS

I, Brian Piekos, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of AMAG 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(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

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

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

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

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

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

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

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

Date: August 17, 2020

/s/ Brian Piekos

Brian Piekos
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

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

In connection with the Quarterly Report of AMAG Pharmaceuticals, Inc. (the "Company") on Form 10-Q for the period ended June 30, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Scott D. Myers, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

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

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

/s/ Scott D. Myers

Scott D. Myers
President and Chief Executive Officer
(Principal Executive Officer)

August 17, 2020

Exhibit 32.2

CERTIFICATION PURSUANT TO

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

In connection with the Quarterly Report of AMAG Pharmaceuticals, Inc. (the "Company") on Form 10-Q for the period ended June 30, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Brian Piekos, Interim Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

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

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

/s/ Brian Piekos
Brian Piekos
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

August 17, 2020