AMAG PHARMACEUTICALS INC. Form S-3ASR June 13, 2018

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As filed with the Securities and Exchange Commission on June 13, 2018

Registration No. 333-

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

AMAG PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

04-2742593 (I.R.S. Employer Identification Number)

1100 Winter Street Waltham, Massachusetts 02451 (617) 498-3300

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

William K. Heiden President, Chief Executive Officer 1100 Winter Street Waltham, Massachusetts 02451 (617) 498-3300 (Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Stuart M. Cable, Esq. Ettore A. Santucci, Esq. Goodwin Procter LLP

100 Northern Avenue Boston, MA 02210 (617) 570-1000

Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this Registration Statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box: o

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, or the Securities Act, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box: \hat{y}

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. \circ

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. o

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

arge accelerated	Accelerated filer	Non-accelerated filer o	Smaller reporting
filer ý	0	(Do not check if a	company o
		smaller reporting	
		company)	Emerging growth
			company o

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 7(a)(2)(B) of the Securities Act. o

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be registered(1)	Proposed maximum offering price per unit(1)(2)	Proposed maximum aggregate offering price(1)(2)	Amount of registration fee(3)
Common Stock (\$.01 par value)(4)				
Preferred Stock (\$.01 par value)				
Debt Securities				
Warrants				
Units				
Debt Securities Warrants				

Total(5)

La

An indeterminate number of or aggregate principal amount of the securities of each identified class is being registered as may at various times be issued at indeterminate prices.

- (2) Not applicable pursuant to General Instruction II.E of Form S-3 under the Securities Act.
- (3) In accordance with Rules 456(b) and 457(r) under the Securities Act, the registrant is deferring payment of all of the registration fee. Any registration fees will be paid subsequently on a pay-as-you-go basis in accordance with Rule 457(r).

(4)

In addition to any securities that may be registered hereunder, we are also registering an indeterminate number of shares of common stock as may be issued upon conversion or exercise of the securities issued directly hereunder. No separate consideration will be received for any shares of common stock so issued upon conversion or exercise.

(5)

The securities registered hereunder may be sold separately or in a combination with other securities registered hereby.

PROSPECTUS

Common Stock Preferred Stock Warrants Units Debt Securities

By this prospectus, we or any selling stockholder may offer and sell from time to time, in one or more offerings, our common stock, preferred stock, warrants, units, debt securities, or any combination thereof described in this prospectus. The warrants may be convertible into or exercisable or exchangeable for common stock or preferred stock, the preferred stock may be convertible into or exchangeable for common stock and the debt securities may be convertible into or exchangeable for common stock. Each time securities are offered pursuant to this prospectus, we will indicate the particular securities being offered and their specific terms in a supplement to this prospectus. In each case, we will describe the type and amount of securities being offered, the public offering price, the net proceeds we expect to receive and the other terms of the offering.

You should carefully read this prospectus, any prospectus supplement and any free writing prospectus, as well as any documents incorporated in any of the foregoing by reference, before you invest in our securities. This prospectus may not be used to sell our securities unless accompanied by a prospectus supplement. The prospectus supplement or any related free writing prospectus may also add to, update, supplement or clarify information contained in this prospectus.

We or any selling stockholder may offer and sell our securities to or through one or more agents, underwriters, dealers or other third parties or directly to one or more purchasers on a continuous or delayed basis. If agents, underwriters or dealers are used to sell our securities, we or any selling stockholder will name them and describe their compensation in a prospectus supplement. The price to the public of our securities and the net proceeds we expect to receive from the sale of such securities will also be set forth in a prospectus supplement. We will not receive any proceeds from the sale of securities by selling stockholders.

Our common stock is listed on the NASDAQ Global Select Market under the symbol "AMAG." On June 12, 2018, the last reported sale price of our common stock on the NASDAQ Global Select Market was \$23.95 per share.

INVESTING IN OUR SECURITIES INVOLVES RISKS. YOU SHOULD REVIEW CAREFULLY THE RISKS AND UNCERTAINTIES DESCRIBED UNDER THE HEADING "RISK FACTORS" BEGINNING ON PAGE 6 AND CONTAINED IN THE APPLICABLE PROSPECTUS SUPPLEMENT AND ANY RELATED FREE WRITING PROSPECTUS, AND UNDER SIMILAR HEADINGS IN THE OTHER DOCUMENTS THAT ARE INCORPORATED BY REFERENCE HEREIN.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or the accuracy of this prospectus. Any representation to the contrary is a criminal offense.

Our principal executive office is at 1100 Winter Street, Waltham, Massachusetts 02451, and our telephone number is (617) 498-3300.

The date of this prospectus is June 13, 2018.

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ABOUT THIS PROSPECTUS

This prospectus is part of an automatic shelf registration statement that we filed with the Securities and Exchange Commission, or the SEC, as a "well-known seasoned issuer" as defined in Rule 405 under the Securities Act of 1933, as amended, or the Securities Act. Under this shelf registration, we and/or selling stockholders may offer shares of our common stock and preferred stock, various series of warrants to purchase common stock or preferred stock, debt securities, or any combination thereof, from time to time in one or more offerings. This prospectus only provides you with a general description of the securities we and/or selling stockholders may offer. Each time we and/or selling stockholders offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will contain more specific information about the specific terms of the offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. This prospectus may not be used to sell our securities unless accompanied by a prospectus supplement. Each such prospectus supplement and any free writing prospectus that we may authorize to be provided to you may also add, update or change information contained in this prospectus or in documents incorporated by reference into this prospectus. **We urge you to carefully read this prospectus, any applicable prospectus supplement and any related free writing prospectus, together with the information incorporated herein by reference as described under the headings "Where You Can Find More Information" and "Documents Incorporated by Reference" before you invest in our securities.**

We have not authorized anyone to provide any information other than that contained or incorporated by reference in this prospectus or in any related prospectus supplement or free writing prospectus prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We take no responsibility for, and can provide no assurances as to the reliability of, any information not contained in this prospectus, any applicable prospectus supplement or any related free writing prospectus that we or a selling stockholder may authorize to be provided to you. This prospectus is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. You should assume that the information in this prospectus, any applicable prospectus supplement or any related free writing prospectus, any applicable prospectus supplement or any related free writing prospectus, any applicable prospectus supplement or any related free writing prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate only as of the date on the front of the document and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any related free writing prospectus, or any sale of a security.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the heading "Where You Can Find More Information."

References in this prospectus to the terms "AMAG Pharmaceuticals," "company," "we," "our" or "us" or other similar terms means AMAG Pharmaceuticals, Inc.

AMAG Pharmaceuticals® and Feraheme® are registered trademarks of AMAG Pharmaceuticals, Inc. MuGard® is a registered trademark of Aboena Therapeutics, Inc. Makena® is a registered trademark of AMAG Pharma USA, Inc. Cord Blood Registry® and CBR® are registered trademarks of Cbr Systems, Inc. Intrarosa® is a registered trademark of Endoceutics, Inc.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Any statements in this prospectus or the applicable prospectus supplement or free writing prospectus, including the documents that we incorporate by reference herein, about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and are forward-looking statements within the meaning of Section 27A of the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. You can identify these forward-looking statements by the use of words or phrases such as "believe," "may," "could," "will," "estimate," "continue," "anticipate," "intend," "seek," "plan," "expect," "potential," "predict," "project," "should," or "would." Among the factors that could cause actual results to differ materially from those indicated in the forward-looking statements are risks and uncertainties inherent in our business including, without limitation: (1) expectations regarding our future sales of Feraheme, Intrarosa and Makena; (2) our plans to continue to expand the impact of our current and future products and services for patients by delivering on our growth strategy, which includes the pursuit of additional products and companies; (3) beliefs that healthcare professionals and patients will prefer the Makena auto-injector over the intramuscular administration; (4) expectations of the timing of entry of a Makena generic to the market; (5) expectations regarding the iron deficiency anemia, or IDA, patient population; (6) beliefs regarding the growth opportunities for Feraheme in the intravenous iron market; (7) our expected investment in label expansion for Intrarosa and plans to raise awareness and education of dyspareunia and vulvar vaginal atrophy and the results of such efforts; (8) the timing and amounts of milestone and royalty payments, including payments to former Lumara Health security holders, Palatin and Endoceutics; (9) expectations and plans as to regulatory and commercial developments and activities, including requirements and initiatives for clinical trials and post-approval commitments for our products; (10) expected results of our strategic commercialization efforts; (11) expectations as to what impact recent and upcoming regulatory developments will have on our business and competition; (12) our expected timing for filing an sNDA for the treatment of hypoactive sexual desire disorder in post-menopausal women with Intrarosa; (13) anticipated clinical, developmental, regulatory and other undertakings and cooperation efforts by our licensing parties; (14) expectations regarding our intellectual property, including patent protection and related litigation, and the impact generics and other competition could have on each of our products and our business generally, including the timing and number of generic entrants; (15) beliefs regarding the intellectual property of our licensing and collaboration partners, and our rights to such property; (16) the market opportunities for each of our products and services; (17) expectations regarding third-party reimbursement and the behaviors of payers, healthcare providers and other industry participants; (18) plans regarding our sales and marketing initiatives, including our contracting, pricing and discounting strategies and efforts to increase patient compliance and access; (19) beliefs that newborn stem cells have the potential to play a valuable role in the development of regenerative medicine; (20) our expectations that we will have sufficient supply of the Makena intramuscular injection to meet demands; (21) beliefs that our efforts to increase new enrollments for the CBR services will increase services revenues for the remainder of 2018; (22) the impact of our license and collaboration agreements on our results of operations; (23) our expectation of costs to be incurred in connection with, and revenue sources (including the contribution of revenues from our products or services) to fund, our future operations; (24) expectations regarding the manufacture of all drug substances, drug products and key materials at our third-party manufacturers or suppliers; (25) our inventory levels and the availability of raw materials; (26) the strategic fit of Intrarosa and bremelanotide in our product portfolio; (27) our expectations regarding customer returns and other revenue-related reserves and accruals; (28) the impact of recent tax reform legislation; (29) estimates regarding our effective tax rate and our ability to realize our net operating loss carryforwards and other tax attributes; (30) the impact of accounting pronouncements; (31) the effect of product price increases; (32) expected expenses, efforts and challenges in research and development and the timing of our planned research and development projects; (33) the impact on our business in connection with the expansion of our

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commercial team; (34) expectations regarding our financial results, including revenues, product sales allowances and accruals, cost of product sales and services, research and development expenses, selling, general and administrative expenses, goodwill, impairment, amortization and other income (expense); (35) estimates, beliefs and judgments related to our impairment analysis; (36) our investing activities and the impact of our operations on our cash, cash equivalents and marketable securities balances; (37) our expectations that cash, cash equivalents and investments will be positively impacted by cash from operations for the remainder of 2018; (38) our belief that we will fund our current and planned operating requirements through our existing cash, cash equivalents, investments and our cash flow from operations; (39) our belief that our cash, cash equivalents and marketable securities as of March 31, 2018, and the cash we currently expect to receive, will be sufficient to satisfy our cash flow needs for the foreseeable future (including the remainder of 2018); (40) estimates and beliefs related to our debt, including our 2023 Senior Notes, the 2022 Convertible Notes and the 2019 Convertible Notes; (41) the impact of volume-based and other rebates and incentives; (42) the valuation of certain intangible assets, goodwill, contingent consideration, debt and other assets and liabilities, including our methodology and assumptions regarding fair value measurements; (43) our expectations regarding competitive pressures and the impact on growth of our product revenues; (44) the timing and amounts (if any) of share repurchases; (45) other risks identified in our filings with the SEC, including our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, our Quarterly Report on Form 10-Q for the quarter period ended March 31, 2018 and subsequent filings with the SEC. Any of the above risks and uncertainties could materially and adversely affect our results of operations, our profitability and our cash flows, which would, in turn, have a significant and adverse impact on our stock price. Use of the term "including" in the two paragraphs above shall mean in each case "including, but not limited to." We caution you not to place undue reliance on any forward-looking statements, which speak only as of the date they are made.

You should understand that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements.

Although we believe that the expectations reflected in our forward-looking statements are reasonable, we cannot guarantee future results, events, levels of activity, performance or achievement. Given these uncertainties, you should not place undue reliance on these forward-looking statements. We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, unless required by law. Before deciding to purchase our securities, you should carefully consider the risk factors incorporated herein by reference, in addition to the other information set forth in this prospectus, any accompanying prospectus supplement, any free writing prospectus and in the documents incorporated by reference.

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OUR COMPANY

This business overview highlights information contained in certain documents incorporated by reference into this prospectus. This business overview does not contain all of the information that you should consider before investing in our securities. You should read the entire prospectus carefully, including the "Risk Factors" section and the financial statements and the notes to those statements incorporated herein by reference, before making an investment decision.

AMAG Pharmaceuticals, Inc., a Delaware corporation, was founded in 1981. We are a biopharmaceutical company focused on developing and delivering important therapeutics, conducting clinical research in areas of unmet need and creating education and support programs for the patients and families we serve. Our currently marketed products support the health of patients in the areas of maternal and women's health, anemia management and cancer supportive care, including Makena® (hydroxyprogesterone caproate injection), Feraheme® (ferumoxytol injection) for intravenous use, Intrarosa® (prasterone) vaginal inserts, and MuGard® Mucoadhesive Oral Wound Rinse. In addition, Cord Blood Registry®, or CBR, operates services related to the preservation of umbilical cord blood stem cell and cord tissue units, or the CBR Services.

Makena is currently the only FDA-approved drug 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. in November 2014. Makena was approved by the U.S. Food and Drug Administration, or the FDA, in February 2011 as an intramuscular injection, or the Makena IM product, packaged in a multi-dose vial and in February 2016 as a single-dose preservative-free vial. The orphan drug exclusivity period that was granted to the Makena IM product in 2011 expired in February 2018, and the Makena IM product is now subject to generic competition. In February 2018, Makena was also approved by the FDA for administration via a pre-filled subcutaneous auto-injector, a drug-device combination product.

CBR is a newborn stem cell bank, which we acquired in August 2015 and offers pregnant women and their families the ability to preserve their newborns' umbilical cord blood and cord tissue for potential future use. Through the CBR Services, we help families to preserve newborn stem cells, which are used today in transplant medicine for certain cancers and blood, immune and metabolic disorders, and which we believe have the potential to play a valuable role in the ongoing development of regenerative medicine.

Feraheme was approved for marketing by the FDA in June 2009 for the treatment of IDA in adult patients with chronic kidney disease, or CKD, and was commercially launched shortly thereafter. In February 2018, we received FDA approval to expand the Feraheme label to treat 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.

Intrarosa was approved by the FDA in November 2016 and was commercially launched in July 2017. Intrarosa is the only FDA-approved, vaginally administered, daily non-estrogen steroid, which is prescribed for the treatment of moderate to severe dyspareunia (pain during sexual intercourse), a symptom of vulvar and vaginal atrophy, due to menopause.

In addition, we have the North American rights to research, develop and commercialize bremelanotide. In June 2018, the FDA accepted our New Drug Application for the treatment of hypoactive sexual desire disorder, the most common type of female sexual dysfunction, in pre-menopausal women. The Prescription Drug User Fee Act, or PDUFA, date for completion of FDA review of the bremelanotide NDA is March 23, 2019.

We intend to expand the impact of these and future products and services for patients by delivering on our growth strategy, which includes organic growth, as well as the pursuit of additional products and companies that align with our existing therapeutic areas or that could benefit from our

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proven core competencies. Currently, our primary sources of revenue are from product sales of Makena, Feraheme and Intrarosa and service revenue from the CBR Services.

Our common stock trades on the NASDAQ Global Select Market under the trading symbol "AMAG."

Our principal offices are located at 1100 Winter Street, Waltham, Massachusetts 02451, and our telephone number is (617) 498-3300. Our website address is *www.amagpharma.com*. Information found on, or accessible through, our website is not a part of, and is not incorporated into, this prospectus, and you should not consider it part of this prospectus or part of any prospectus supplement. Our website address is included in this document as an inactive textual reference only.

RISK FACTORS

An investment in our securities involves a high degree of risk. In addition to the other information included in, or incorporated by reference into, this prospectus, the applicable prospectus supplement and any related free writing prospectus, you should carefully consider the risk factors incorporated by reference to our Annual Report on Form 10-K for the year ended December 31, 2017 and in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, as the same may be updated from time to time by our future filings under the Exchange Act, when determining whether or not to purchase the securities offered under this prospectus and the prospectus supplement.

SECURITIES WE MAY OFFER

We and/or any selling stockholder may offer shares of our common stock and preferred stock, various series of warrants to purchase common stock or preferred stock, debt securities, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt, or any combination thereof from time to time in one or more offerings under this prospectus at prices and on terms to be determined at the time of any offering. This prospectus provides you with a general description of the securities we and/or any selling stockholder may offer. Each time we and/or any selling stockholder offer a type or series of securities under this prospectus, we will provide a prospectus supplement and/or free writing prospectus that will describe the specific amounts, prices and other important terms of the securities.

DESCRIPTION OF OUR COMMON STOCK

We and/or any selling stockholder may issue and/or sell, as applicable, shares of our common stock from time to time. Holders of shares of our common stock are entitled to one vote for each share held of record on all matters to be voted on by stockholders and do not have cumulative voting rights. Subject to the preferences that may be applicable to any then outstanding preferred stock, the holders of our outstanding shares of common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds. In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities, subject to the satisfaction of any liquidation preference granted to the holders of any outstanding shares of preferred stock.

DESCRIPTION OF OUR PREFERRED STOCK

We may issue shares of our preferred stock from time to time, in one or more series. Our board of directors will determine the rights, preferences and privileges of the shares of each wholly unissued series, and any qualifications, limitations or restrictions thereon, including dividend rights, conversion rights, preemptive rights, terms of redemption or repurchase, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of any series. Convertible preferred stock will be convertible into our common stock or exchangeable for other securities. Conversion may be mandatory or at the holder's option and would be at prescribed conversion rates.

If we sell any series of preferred stock under this prospectus, we will fix the rights, preferences and privileges of the preferred stock of such series, as well as any qualifications, limitations or restrictions thereon, in the certificate of designation relating to that series. We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of any certificate of designation that describes the terms of the series of preferred stock we are offering before the issuance of that series of preferred stock. We urge you to read the applicable prospectus supplement and any free writing prospectus that we may

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authorize to be provided to you related to the series of preferred stock being offered, as well as the complete certificate of designation that contains the terms of the applicable series of preferred stock.

DESCRIPTION OF OUR WARRANTS

We may issue warrants for the purchase of common stock and/or preferred stock in one or more series. We may issue warrants independently or together with common stock and/or preferred stock, and the warrants may be attached to or separate from these securities. We urge you to read the applicable prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the particular series of warrants being offered, as well as the complete warrant agreements and warrant certificates that contain the terms of the warrants. Forms of the warrant agreements and forms of warrant certificates containing the terms of the warrants being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

We will evidence each series of warrants by warrant certificates that we will issue. Warrants may be issued under an applicable warrant agreement that we enter into with a warrant agent. We will indicate the name and address of the warrant agent, if applicable, in the prospectus supplement relating to the particular series of warrants being offered.

DESCRIPTION OF OUR UNITS

We may issue, in one or more series, units consisting of common stock, preferred stock, and/or warrants for the purchase of common stock and/or preferred stock in any combination. We urge you to read the applicable prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of units being offered, as well as the complete unit agreement that contains the terms of the units. We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of unit agreement and any supplemental agreements that describe the terms of the series of units we are offering before the issuance of the related series of units.

We will evidence each series of units by unit certificates that we will issue. Units may be issued under a unit agreement that we enter into with a unit agent. We will indicate the name and address of the unit agent, if applicable, in the prospectus supplement relating to the particular series of units being offered.

DESCRIPTION OF OUR DEBT SECURITIES

We may issue debt securities, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. In this prospectus, we have summarized certain general features of the debt securities. We urge you, however, to read the applicable prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the particular series of debt securities being offered, as well as the complete indenture that contains the terms of the debt securities. We will file as exhibits to the registration statement of which this prospectus is a part, the form of indenture and any supplemental agreements that describe the terms of the series of debt securities we are offering before the issuance of the related series of debt securities.

We may evidence each series of debt securities we will issue by an indenture that we enter into with a trustee. We will indicate the name and address of the trustee, if applicable, in the prospectus supplement relating to the particular series of debt securities being offered.

Unless otherwise specified in the applicable prospectus supplement, we will issue any senior debt securities issued under an indenture, or the senior indenture, dated as of May 10, 2017, between us and Wilmington Trust, National Association, as trustee, which is included as an exhibit to the registration

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statement of which this prospectus forms a part. The terms of the senior debt securities will include those stated in the senior indenture and any supplemental indentures that specify the terms of a particular series of senior debt securities. The senior indenture has been qualified under the Trust Indenture Act of 1939, as amended, or the Trust Indenture Act.

We will issue any subordinated debt securities under a subordinated indenture that we will enter into with the trustee named in the subordinated indenture. We have filed a form of subordinated indenture as an exhibit to the registration statement of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC. The subordinated indenture will be qualified under the Trust Indenture Act.

We use the term "trustee" to refer to either the trustee under the senior indenture or the trustee under the subordinated indenture, as applicable. Unless the context requires otherwise, whenever we refer to the "indentures" we are referring to any supplemental indentures that specify the terms of a particular series of debt securities.

The following summaries of material provisions of the senior debt securities, the subordinated debt securities and the indentures are subject to, and qualified in their entirety by reference to, all of the provisions of the indenture applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplement or free writing prospectus and any related free writing prospectuses related to the debt securities that we may offer under this prospectus, as well as the complete applicable indenture that contains the terms of the debt securities.

General

We will describe in the applicable prospectus supplement or free writing prospectus the terms of the series of debt securities being offered, including:

the title;

the principal amount being offered, and if a series, the total amount authorized and the total amount outstanding;

any limit on the amount that may be issued;

whether or not we will issue the series of debt securities in global form, and, if so, the terms and who the depository will be;

the maturity date;

whether and under what circumstances, if any, we will pay additional amounts on any debt securities held by a person who is not a United States person for tax purposes, and whether we can redeem the debt securities if we have to pay such additional amounts;

the annual interest rate, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;

whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;

the terms of the subordination of any series of subordinated debt;

the place where payments will be payable;

restrictions on transfer, sale or other assignment, if any;

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our right, if any, to defer payment of interest and the maximum length of any such deferral period;

the date, if any, after which, the conditions upon which, and the price at which, we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions and the terms of those redemption provisions;

the date, if any, on which, and the price at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the holder's option, to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;

whether the indenture will restrict our ability or the ability of our subsidiaries to:

incur additional indebtedness;

issue additional securities;

create liens;

pay dividends or make distributions in respect of our capital stock or the capital stock of our subsidiaries;

redeem capital stock;

place restrictions on our subsidiaries' ability to pay dividends, make distributions or transfer assets;

make investments or other restricted payments;

sell or otherwise dispose of assets;

enter into sale-leaseback transactions;

engage in transactions with stockholders or affiliates;

issue or sell stock of our subsidiaries; or

effect a consolidation or merger;

whether the indenture will require us to maintain any interest coverage, fixed charge, cash flow-based, asset-based or other financial ratios;

a discussion of certain material or special United States federal income tax considerations applicable to the debt securities;

information describing any book-entry features;

provisions for a sinking fund purchase or other analogous fund, if any;

the applicability of the provisions in the indenture on discharge;

whether the debt securities are to be offered at a price such that they will be deemed to be offered at an "original issue discount" as defined in paragraph (a) of Section 1273 of the Internal Revenue Code of 1986, as amended;

the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof (or, in the case of senior debt securities, if other than minimum denominations of \$1,000 or any integral multiple of \$1,000 thereof);

the currency of payment of debt securities if other than U.S. dollars and the manner of determining the equivalent amount in U.S. dollars; and

any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, including any additional events of default or covenants provided with respect to the debt securities, and any terms that may be required by us or advisable under applicable laws or regulations or advisable in connection with the marketing of the debt securities.

Conversion or Exchange Rights

We will set forth in the applicable prospectus supplement or free writing prospectus the terms on which a series of debt securities may be convertible into or exchangeable for our common stock, our preferred stock or other securities (including securities of a third-party). We will include provisions as to whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of shares of our common stock, our preferred stock or other securities (including securities of a third-party) that the holders of the series of debt securities receive would be subject to adjustment.

Consolidation, Merger or Sale

Unless we provide otherwise in the prospectus supplement or free writing prospectus applicable to a particular series of debt securities, the indentures will not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of all or substantially all of our assets. However, any successor to or acquirer of such assets must assume all of our obligations under the indentures or the debt securities, as appropriate. If the debt securities are convertible into or exchangeable for other securities of ours or securities of other entities, the person with whom we consolidate or merge or to whom we sell all of our property must make provisions for the conversion of the debt securities into securities that the holders of the debt securities would have received if they had converted the debt securities before the consolidation, merger or sale.

Events of Default Under the Indentures

Unless we provide otherwise in the prospectus supplement or free writing prospectus applicable to a particular series of debt securities, the following are events of default under the indentures with respect to any series of debt securities that we may issue:

if we fail to pay interest when due and payable and our failure continues for 90 days and the time for payment has not been extended;

if we fail to pay the principal, premium or sinking fund payment, if any, when due and payable at maturity, upon redemption or repurchase or otherwise, and the time for payment has not been extended;

if we fail to observe or perform any other covenant contained in the debt securities or the indentures, other than a covenant specifically relating to another series of debt securities, and our failure continues for 90 days after we receive notice from the trustee or holders of at least 25% in aggregate principal amount of the outstanding debt securities of the applicable series; and

if specified events of bankruptcy, insolvency or reorganization occur.

We will describe in each applicable prospectus supplement or free writing prospectus any additional events of default relating to the relevant series of debt securities.

If an event of default with respect to debt securities of any series occurs and is continuing, other than an event of default specified in the last bullet point above, the trustee or the holders of at

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least 25% in aggregate principal amount of the outstanding debt securities of that series, by notice to us in writing, and to the trustee if notice is given by such holders, may declare the unpaid principal, premium, if any, and accrued interest, if any, due and payable immediately. If an event of default specified in the last bullet point above occurs with respect to us, the unpaid principal, premium, if any, and accrued interest, if any, and accrued interest, if any, of each issue of debt securities then outstanding shall be due and payable without any notice or other action on the part of the trustee or any holder.

The holders of a majority in principal amount of the outstanding debt securities of an affected series may waive any default or event of default with respect to the series and its consequences, except defaults or events of default regarding payment of principal, premium, if any, or interest, unless we have cured the default or event of default in accordance with the indenture. Any waiver shall cure the default or event of default.

Subject to the terms of the indentures, if an event of default under an indenture shall occur and be continuing, the trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the trustee reasonable indemnity or security satisfactory to it against any loss, liability or expense. The holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee, or exercising any trust or power conferred on the trustee, with respect to the debt securities of that series, provided that:

the direction so given by the holder is not in conflict with any law or the applicable indenture; and

subject to its duties under the Trust Indenture Act, the trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

A holder of the debt securities of any series will have the right to institute a proceeding under the indentures or to appoint a receiver or trustee, or to seek other remedies if:

the holder has given written notice to the trustee of a continuing event of default with respect to that series;

the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made written request, and such holders have offered reasonable indemnity to the trustee or security satisfactory to it against any loss, liability or expense or to be incurred in compliance with instituting the proceeding as trustee; and

the trustee does not institute the proceeding, and does not receive from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series other conflicting directions within 90 days after the notice, request and offer.

These limitations do not apply to a suit instituted by a holder of debt securities if we default in the payment of the principal, premium, if any, or interest on, the debt securities, or other defaults that may be specified in the applicable prospectus supplement or free writing prospectus.

We will periodically file statements with the trustee regarding our compliance with specified covenants in the indentures.

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Modification of Indentures; Waiver

Subject to the terms of the applicable indenture for any series of debt securities that we may issue, we and the trustee may change an indenture without the consent of any holders with respect to the following specific matters:

to fix any ambiguity, defect or inconsistency in such indenture;

to comply with the provisions described above under "Description of Our Debt Securities Consolidation, Merger or Sale;"

to comply with any requirements of the SEC in connection with the qualification of such indenture under the Trust Indenture Act;

to add to, delete from or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication and delivery of debt securities, as set forth in such indenture;

to provide for the issuance of and establish the form and terms and conditions of the debt securities of any series as provided under "Description of Our Debt Securities" General," to establish the form of any certifications required to be furnished pursuant to the terms of such indenture or any series of debt securities, or to add to the rights of the holders of any series of debt securities;

to evidence and provide for the acceptance of appointment hereunder by a successor trustee;

to provide for uncertificated debt securities and to make all appropriate changes for such purpose;

to add to our covenants such new covenants, restrictions, conditions or provisions for the benefit of the holders, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default or to surrender any right or power conferred to us in such indenture; or

to change anything that does not materially adversely affect the interests of any holder of debt securities of any series.

In addition, under the indentures, the rights of holders of a series of debt securities may be changed by us and the trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series that is affected. However, subject to the terms of the applicable indenture for any series of debt securities that we may issue or as otherwise provided in the prospectus supplement or free writing prospectus applicable to a particular series of debt securities, we and the trustee may make the following changes only with the consent of each holder of any outstanding debt securities affected:

extending the stated maturity of the series of debt securities;

reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption or repurchase of any debt securities; or

reducing the percentage of debt securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

Discharge

Each indenture provides that, subject to the terms of such indenture and any limitation otherwise provided in the prospectus supplement or free writing prospectus applicable to a particular series of

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debt securities, we can elect to be discharged from our obligations with respect to one or more series of debt securities, except for specified obligations, including obligations to:

register the transfer or exchange of debt securities of the series;

replace stolen, lost or mutilated debt securities of the series;

maintain paying agencies;

hold monies for payment in trust;

recover excess money held by the trustee;

compensate and indemnify the trustee; and

appoint any successor trustee.

In order to exercise our rights to be discharged, we must deposit with the trustee money or government obligations sufficient to pay all the principal of, any premium and interest on, the debt securities of the series on the dates payments are due.

Form, Exchange and Transfer

We will issue the debt securities of each series only in fully registered form without coupons and, unless we otherwise specify in the applicable prospectus supplement or free writing prospectus, in denominations of \$1,000 and any integral multiple thereof (or, in the case of senior debt securities, in minimum denominations of \$1,000 or any integral multiple of \$1,000 thereof). The indentures provide that we may issue debt securities of a series in temporary or permanent global form and as book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company or another depository named by us and identified in a prospectus supplement or free writing prospectus with respect to that series.

At the option of the holder, subject to the terms of the indentures and the limitations applicable to global securities described in the applicable prospectus supplement or free writing prospectus, the holder of the debt securities of any series can exchange the debt securities for other debt securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

Subject to the terms of the indentures and the limitations applicable to global securities set forth in the applicable prospectus supplement or free writing prospectus, holders of the debt securities may present the debt securities for exchange or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed if so required by us or the security registrar, at the office of the security registrar or at the office of any transfer agent designated by us for this purpose. Unless otherwise provided in the debt securities that the holder presents for transfer or exchange, we will make no service charge for any registration of transfer or exchange, but we may require payment of any taxes or other governmental charges.

We will name in the applicable prospectus supplement or free writing prospectus the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

If we elect to redeem the debt securities of any series, we will not be required to:

issue, register the transfer of, or exchange any debt securities of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption

of any debt securities that may be selected for redemption and ending at the close of business on the day of the mailing; or

register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except the unredeemed portion of any debt securities we are redeeming in part.

Information Concerning the Trustee

The trustee, other than during the occurrence and continuance of an event of default under an indenture, undertakes to perform only those duties as are specifically set forth in the applicable indenture. Upon an event of default under an indenture, the trustee must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs.

Subject to this provision, the trustee is under no obligation to exercise any of the powers given it by the indentures at the request of any holder of debt securities unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur.

Payment and Paying Agents

Unless we otherwise indicate in the applicable prospectus supplement or free writing prospectus, we will make payment of the interest on any debt securities on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest.

We will pay principal of and any premium and interest on the debt securities of a particular series at the office of the paying agents designated by us, except that unless we otherwise indicate in the applicable prospectus supplement or free writing prospectus, we will make interest payments by check that we will mail to the holder or by wire transfer to certain holders. Unless we otherwise indicate in the applicable prospectus supplement or free writing prospectus, we will designate the corporate trust office of the trustee as our sole paying agent for payments with respect to debt securities of each series. We will name in the applicable prospectus supplement or free writing prospectus any other paying agents that we initially designate for the debt securities of a particular series. We will maintain a paying agent in each place of payment for the debt securities of a particular series.

All money we pay to a paying agent or the trustee for the payment of the principal of or any premium or interest on any debt securities that remains unclaimed at the end of two years after such principal, premium or interest has become due and payable will be repaid to us, and the holder of the debt security thereafter may look only to us for payment thereof.

Governing Law

The indentures and the debt securities will be governed by and construed in accordance with the laws of the State of New York, except to the extent that the Trust Indenture Act is applicable.

Ranking of Debt Securities

The subordinated debt securities will be subordinate and junior in priority of payment to certain of our other indebtedness to the extent described in a prospectus supplement or free writing prospectus. The subordinated indenture does not limit the amount of subordinated debt securities that we may issue. It also does not limit us from issuing any other secured or unsecured debt.

The senior debt securities will rank equally in right of payment to all our other senior unsecured debt. The senior indenture does not limit the amount of senior debt securities that we may issue. It also does not limit us from issuing any other secured or unsecured debt.



RATIO OF EARNINGS TO FIXED CHARGES

The following table sets forth our ratio of earnings to fixed charges for the periods indicated. You should read this table in conjunction with the financial statements and notes incorporated by reference in this prospectus. We paid no dividends on preferred shares during the periods indicated. Therefore, the ratios of earnings to combined fixed charges and preferred stock dividends are the same as the ratios of earnings to fixed charges presented below.

	Three Months Ended		Years Ended December 31,			
	March 31, 2018	2017	2016	2015	2014	2013
	2010	2017	2010	2013	2014	2015
Ratio of earnings to fixed charges			1.12x	1.73x		

The ratio of earnings to fixed charges is calculated pursuant to the instructions of Item 503 of Regulation S-K by dividing earnings by fixed charges. For this purpose, "earnings" are determined by adding fixed charges to our income (loss) before income taxes, and "fixed charges" consists of interest expense on our indebtedness as well as the estimated interest component of rental expense (one-third of rent expense, a reasonable approximation of the interest factor) under our operating leases.

For the three months ended March 31, 2018 and for the years ended December 31, 2017, 2014 and 2013, earnings were insufficient to cover fixed charges and we are unable to disclose a ratio of earnings to fixed charges for such periods. The dollar amount of the deficiency in earnings to cover fixed charges for the three months ended March 31, 2018 and for the years ended December 31, 2017, 2014 and 2013 were \$60.2 million, \$370.1 million, \$17.3 million and \$9.6 million, respectively.

USE OF PROCEEDS

Unless otherwise described in a prospectus supplement or related free writing prospectus, we intend to use the net proceeds from the sale of the offered securities for general corporate purposes, which may include, but are not limited to, working capital, strategic acquisitions and other potential business development activities, ongoing research and development activities and capital expenditures. Pending any specific utilization, the proceeds from the sale of the offered securities may be invested in a manner designed to ensure levels of liquidity which correspond to our current and foreseeable cash needs. Such investments may include, but may not be limited to, short-term investments, including government bonds, or other interest-bearing investments. From time to time, we may engage in additional public or private financings of a character and amount which we may deem appropriate. Unless otherwise set forth in a prospectus supplement, we will not receive any proceeds from the sale of securities by any selling stockholder.

SELLING STOCKHOLDERS

Selling stockholders are persons or entities that, directly or indirectly, have acquired or will from time to time acquire from us, our securities. Such selling stockholders may be parties to registration rights agreements with us, or we otherwise may have agreed or will agree to register their securities for resale. The initial purchasers of our securities, as well as their transferees, pledges, donees or successors, all of whom we refer to as "selling stockholders," may from time to time offer and sell our securities pursuant to this prospectus and any applicable prospectus supplement.

The applicable prospectus supplement will set forth the name of each of the selling stockholders and the number of securities beneficially owned by such selling stockholder that are covered by such prospectus supplement. The applicable prospectus supplement will also disclose whether any of the selling stockholders has held any position or office with, has been employed by or otherwise has had a material relationship with us during the three years prior to the date of the applicable prospectus supplement.

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PLAN OF DISTRIBUTION

We and/or any selling stockholder may sell our securities from time to time in one or more transactions. We and/or any selling stockholder may sell our securities to or through agents, underwriters, dealers, remarketing firms or other third parties or directly to one or more purchasers or through a combination of any of these methods. In some cases, we and/or any selling stockholder or dealers acting with us and/or any selling stockholder may also purchase our securities and reoffer them to the public. We and/or any selling stockholder may also offer and sell, or agree to deliver, our securities pursuant to, or in connection with, any option agreement or other contractual arrangement.

Agents whom we designate may solicit offers to purchase our securities.

We and/or any selling stockholder will name any agent involved in offering or selling our securities, and disclose any commissions that we will pay to the agent, in the applicable prospectus supplement.

Unless we and/or any selling stockholder indicate otherwise in the applicable prospectus supplement, agents will act on a best efforts basis for the period of their appointment.

Agents may be deemed to be underwriters under the Securities Act of any of our securities that they offer or sell.

We and/or any selling stockholder may use an underwriter or underwriters in the offer or sale of our securities.

If we and/or any selling stockholder use an underwriter or underwriters, we will execute an underwriting agreement with the underwriter or underwriters at the time that we reach an agreement for the sale of our securities.

We and/or any selling stockholder will include the names of the specific managing underwriter or underwriters, as well as the names of any other underwriters, and the terms of the transactions, including the compensation the underwriters and dealers will receive, in the applicable prospectus supplement.

The underwriters will use the applicable prospectus supplement, together with the prospectus, to sell our securities.

We may use a dealer to sell our securities.

If we and/or any selling stockholder use a dealer, we will sell our securities to the dealer, as principal.

The dealer will then sell our securities to the public at varying prices that the dealer will determine at the time it sells our securities.

We and/or any selling stockholder will include the name of the dealer and the terms of the transactions with the dealer in the applicable prospectus supplement.

We and/or any selling stockholder may solicit directly offers to purchase our securities, and we may directly sell our securities to institutional or other investors. We and/or any selling stockholder will describe the terms of direct sales in the applicable prospectus supplement.

We and/or any selling stockholder may engage in at the market offerings into an existing trading market in accordance with Rule 415(a)(4) of the Securities Act.

We and/or any selling stockholder will indemnify agents, underwriters and dealers against certain liabilities, including liabilities under the Securities Act. Agents, underwriters and dealers, or their

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affiliates, may be customers of, engage in transactions with or perform services for us or our respective affiliates, in the ordinary course of business.

We and/or any selling stockholder may authorize agents and underwriters to solicit offers by certain institutions to purchase our securities at the public offering price under delayed delivery contracts.

If we and/or any selling stockholder use delayed delivery contracts, we will disclose that we are using them in the prospectus supplement and will tell you when we will demand payment and when delivery of our securities will be made under the delayed delivery contracts.

These delayed delivery contracts will be subject only to the conditions that we describe in the prospectus supplement.

We and/or any selling stockholder will describe in the applicable prospectus supplement the commission that underwriters and agents soliciting purchases of our securities under delayed delivery contracts will be entitled to receive.

Unless otherwise specified in connection with a particular underwritten offering of our securities, the underwriters will not be obligated to purchase offered securities unless specified conditions are satisfied, and if the underwriters do purchase any offered securities, they will purchase all offered securities.

In connection with underwritten offerings of the offered securities and in accordance with applicable law and industry practice, the underwriters in certain circumstances are permitted to engage in certain transactions that stabilize the price of our securities. Such transactions consist of bids or purchases for the purpose of pegging, fixing or maintaining the price of our securities. If the underwriters create a short position in our securities in connection with the offering (i.e., if they sell more securities than are set forth on the cover page of the applicable prospectus supplement), the underwriters may reduce that short position by purchasing our securities in the open market or as otherwise provided in the applicable prospectus supplement. The underwriters may also impose a penalty bid, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if the securities sold by them are repurchased in connection with stabilization transactions. In general, purchases of a security for the purpose of stabilization or to reduce a short position could cause the price of our securities to the extent that it were to discourage resales of our securities. The underwriters are not required to engage in these activities and may end any of these activities at any time.

We and/or any selling stockholder may effect sales of securities in connection with forward sale, option or other types of agreements with third parties. Any distribution of securities pursuant to any forward sale agreement may be effected from time to time in one or more transactions that may take place through a stock exchange, including block trades or ordinary broker's transactions, or through broker-dealers acting either as principal or agent, or through privately-negotiated transactions, or through an underwritten public offering, or through a combination of any such methods of sale, at market prices prevailing at the time of sale, prices relating to such prevailing market prices or at negotiated or fixed prices.

The specific terms of the lock-up provisions, if any, in respect of any given offering will be described in the applicable prospectus supplement.

LEGAL MATTERS

Certain legal matters with respect to the securities offered hereby have been passed upon by Goodwin Procter LLP, Boston, Massachusetts.

EXPERTS

The financial statements and management's assessment of the effectiveness of internal control over financial reporting (which is included in "Management's Annual Report on Internal Control over Financial Reporting") incorporated in this Prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2017 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

DOCUMENTS INCORPORATED BY REFERENCE

The SEC allows us to "incorporate by reference" the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information we incorporate by reference is considered part of this prospectus. Statements in this prospectus regarding the contents of any contract or other document may not be complete. You should refer to the copy of the contract or other document filed as an exhibit to the registration statement. Later information filed with the SEC will update and supersede information we have included or incorporated by reference in this prospectus.

We incorporate by reference the documents listed below, which have been filed with the SEC (other than Current Reports or portions thereof furnished under Item 2.02 or Item 7.01 of Form 8-K):

1. Our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, as filed on March 1, 2018;

2. Our definitive Proxy Statement on Schedule 14A, as filed on April 25, 2018 (solely with respect to those portions specifically incorporated by reference into our Annual Report on Form 10-K for the fiscal year ended December 31, 2017);

3. Our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2018, as filed on May 4, 2018;

4. Our Current Report on Form 8-K, as filed on June 8, 2018 (except that, with respect to the foregoing Current Report, any portions thereof which are furnished and not filed shall not be deemed incorporated by reference); and

5. The description of our common stock, which is registered under Section 12 of the Exchange Act, contained under Item 8.01 of our Current Report on Form 8-K, as filed on August 1, 2013, including any amendment or report filed for the purpose of updating such descriptions.

We also incorporate by reference any filings made after the date of effectiveness of the registration statement with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, except as to any portion of any future report or document that is not deemed filed under such provisions, until the offering of the securities made by this prospectus is completed or terminated.

We will provide without charge to each person, including any beneficial owner, to whom this prospectus is delivered, upon the written or oral request of that person, a copy of any and all of the information that has been incorporated in this prospectus by reference other than exhibits unless those exhibits are specifically incorporated by reference into the documents. Requests for these copies should be directed to our investor relations department at the following address and telephone number: AMAG Pharmaceuticals, Inc., 1100 Winter Street, Waltham, Massachusetts, 02451; (617) 498-3300.

WHERE YOU CAN FIND MORE INFORMATION

We file reports, proxy statements and other information with the SEC. You may read and copy the reports, proxy statements and other information that we file with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for information about the operation of its Public Reference Room and for its prescribed rates to obtain copies of such material. The SEC also maintains an Internet site that contains reports, proxy and information statements and other information regarding registrants, like us, that file electronically with the SEC. The address of the SEC's Internet site is *http://www.sec.gov*. Our Internet site is *http://www.sec.gov*. Information contained on our Internet site is not a part of this prospectus.

This prospectus provides you with a general description of the common stock, preferred stock, debt securities, warrants, and units being registered. This prospectus is part of a registration statement that we have filed with the SEC. To see more detail, you should read the registration statement and the exhibits and schedules filed with, or incorporated by reference into, our registration statement.

This registration statement, including the exhibits contained or incorporated by reference therein, can be read at the SEC web site or at the SEC office referred to above. Any statement made or incorporated by reference in this prospectus concerning the contents of any contract, agreement or other document is only a summary of the actual contract, agreement or other document. If we have filed or incorporated by reference any contract, agreement or other document as an exhibit to the registration statement, you should read the exhibit for a more complete understanding of the document or matter involved. Each statement regarding a contract, agreement or other document is qualified in its entirety by reference to the actual document.

PART II INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth the various expenses to be incurred in connection with the sale and distribution of the securities being registered hereby, all of which will be borne by AMAG Pharmaceuticals:

SEC Registration Fee	\$ *
NASDAQ Fees	**
Transfer Agent Fees	**
Legal Fees and Expenses	**
Accounting Fees and Expenses	**
Printing and Miscellaneous Fees	**
Total	\$ **

*

Deferred in reliance on Rules 456(b) and 457(r) under the Securities Act.

**

These fees are calculated based on the securities offered and the number of issuances and, accordingly, cannot be estimated at this time.

Item 15. Indemnification of Directors and Officers.

Section 145 of the General Corporation Law of Delaware, or the DGCL, empowers a corporation to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he or she is or was a director, officer, employee or agent of the corporation or another enterprise if serving at the request of the corporation. Depending on the character of the proceeding, a corporation may indemnify against expenses (including attorney's fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding if the person indemnified acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. In the case of an action by or in the right of the corporation, no indemnification may be made in respect to any claim, issue or matter as to which such action or suit was brought shall determine that despite the adjudication of liability, but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnify for such expenses that the court shall deem proper. Section 145 further provides that to the extent a present or former director or officer of a corporation has been successful in the defense of any action, suit or proceeding referred to above, or in defense of any claim, issue or matter therein, he or she shall be indemnified against expenses (including attorney's fees) actually and reasonably incurred by him or her in connection therewith.

The registrant's certificate of incorporation, as amended, provides that the registrant shall, to the fullest extent permitted by the DGCL, indemnify any director or officer which it shall have the power to indemnify under the DGCL against any expenses, liabilities, or other matters referred to in or covered by Section 145 of the DGCL. This indemnification continues after such person ceases to be a director or officer and inures to the benefit of the heirs, executors and administrators of said person. The registrant shall not be required to indemnify a person in connection with such action, suit or proceeding initiated by such person if it was not authorized by the registrant's board except under limited circumstances. The certificate of incorporation also provides that the right to indemnification

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includes the right to be paid by the registrant for the expenses incurred in defending any such proceeding in advance of its final disposition; provided, however, that the payment of such expenses incurred by a director or officer in advance of the final disposition of a proceeding shall be made only upon delivery by the registrant of an undertaking, by or on behalf of such director or officer, to repay all amounts so advanced if it shall ultimately be determined that such director or officer is not entitled to be indemnified under the certificate of incorporation or otherwise. The certificate of incorporation provides that the registrant, by action of its board, may provide indemnification to employees and agents of the registrant with the same scope and effect as the indemnification of directors and officers. The certificate of incorporation also contains a provision eliminating the liability of directors of the registrant to the registrant or its stockholders for monetary damage, to the fullest extent permitted by law. The certificate of incorporation also permits the registrant to purchase and maintain insurance to protect itself and any director, officer, employee or agent against any expense, liability, or loss incurred by him or her if the registrant would have the power to indemnify such persons against such expense, liability or loss under the DGCL. The certificate of incorporation also permits the registrant to agreements with any director, officer, employee or agent providing for indemnification rights equivalent to or greater than the indemnification rights set forth in the certificate of incorporation. The registrant has entered into indemnification agreements with all of its directors and executive officer.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling the registrant pursuant to the foregoing provisions, the registrant has been informed that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Item 16. Exhibits.

The following exhibits are filed as part of this registration statement:

Exhibit No.

it	No.	Description
	1.1*	Form of Underwriting Agreement.
	3.1	Certificate of Incorporation of the Registrant, as amended and restated (incorporated herein by reference to Exhibits 3.1 and 4.1 to the registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2010).
	3.2	Certificate of Amendment of Restated Certificate of Incorporation of the Registrant (incorporated herein by reference to Exhibit 3.1 to the registrant's Current Report on Form 8-K filed May 28, 2015).
	3.3	Amended and Restated Bylaws, as amended to date (incorporated herein by reference to Exhibit 3.1 to the registrant's Current Report on Form 8-K filed December 17, 2015).
	3.4	Amended and Restated Certificate of Designation of the Registrant's Series A Junior Participating Preferred Stock (incorporated herein by reference to Exhibit 3.1 to the registrant's Current Report on Form 8-K filed April 10, 2017).
	4.1	Reference is made to Exhibits <u>3.1</u> , <u>3.2</u> , <u>3.3</u> and <u>3.4</u> .
	4.2	Specimen certificate representing the Registrant's Common Stock (incorporated by reference to Exhibit 4.3 the registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2009).
	4.3*	Form of Certificate of Designation of Preferred Stock.

4.4* Form of Preferred Stock Certificate.

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Exhibit No. 4.5	Description Indenture, dated as of May 10, 2017, by and between AMAG Pharmaceuticals, Inc. and Wilmington Trust, National	
т.5	Association (incorporated herein by reference to Exhibit 4.1 to the registrant's Current Report on Form 8-K filed May 15, 2017).	
4.6+	+ Form of Subordinated Indenture between the Registrant and one or more trustees to be named.	
4.7*	Form of Senior Debt Security.	
4.8*	Form of Subordinated Debt Security.	
4.9*	Form of Common Stock Warrant Agreement and Warrant Certificate.	
4.10*	Form of Preferred Stock Warrant Agreement and Warrant Certificate.	
4.11*	Form of Debt Securities Warrant Agreement and Warrant Certificate.	
4.12*	Form of Unit Certificate.	
5.1+	Opinion of Goodwin Procter LLP as to the legality of the securities being registered.	
12.1+	Statement Regarding Computation of Ratio of Earnings to Fixed Charges.	
23.1+	Consent of PricewaterhouseCoopers LLP, independent registered public accounting firm.	
23.2+	Consent of Goodwin Procter LLP (included in Exhibit 5.1).	
24+	Powers of Attorney (included in the signature pages of this registration statement).	
25.1+	Statement of Eligibility of Trustee on Form T-1 for Wilmington Trust, National Association for the Senior Indenture.	

25.2** Statement of Eligibility of Trustee on Form T-1 under the Subordinated Indenture.

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Filed herewith.

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To be filed, if necessary, subsequent to the effectiveness of this registration statement by amendment or incorporated by reference to a Current Report on Form 8-K in connection with the offering of any securities, as appropriate.

**

To be filed pursuant to Section 305(b)(2) of the Trust Indenture Act of 1939.

Item 17. Undertakings.

- (a) The undersigned registrant hereby undertakes:
 - (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no

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more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (1)(i), (1)(ii) and (1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is a part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement or in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. *Provided*, *however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract or sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities:

The undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be

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(i)

(ii)

a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(c) The undersigned registrant hereby undertakes that:

(1) For purposes of determining liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(d) The undersigned registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act, or the Act, in accordance with the rules and regulations prescribed by the SEC under Section 305(b)(2) of the Act.

(e) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling person of the registrant pursuant to Item 15, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of Waltham, the Commonwealth of Massachusetts, on this 13th day of June, 2018.

AMAG PHARMACEUTICALS, INC By: /s/ WILLIAM K. HEIDEN

William K. Heiden

President and Chief Executive Officer

POWER OF ATTORNEY

We, the undersigned officers and directors of AMAG Pharmaceuticals, Inc. hereby severally constitute and appoint William K. Heiden and Edward Myles, and each of them singly, our true and lawful attorneys, with full power to them and each of them singly, to sign for us in our names in the capacities indicated below, any and all amendments (including post-effective amendments) to this registration statement on Form S-3, and to file the same with the Securities and Exchange Commission, and generally to do all such things in our names and on our behalf in our capacities as officers and directors to enable AMAG Pharmaceuticals, Inc. to comply with the provisions of the Securities Act, and all requirements of the Securities and Exchange Commission, hereby ratifying and confirming our signatures as they may be signed by our said attorneys, or any of them, to said registration statement and any and all amendments thereto.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement on Form S-3 has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ WILLIAM K. HEIDEN	President, Chief Executive Officer and Director	
William K. Heiden	(Principal Executive Officer)	June 13, 2018
/s/ EDWARD MYLES	Executive Vice President of Finance, Chief Accounting	
Edward Myles	Officer and Treasurer (Principal Financial and Accounting Officer)	
/s/ BARBARA DEPTULA	Director	
Barbara Deptula	Director	June 13, 2018
/s/ JOHN FALLON, M.D.	Director	
John Fallon, M.D.	П-6	June 13, 2018

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Signature	Title	Date
/s/ ROBERT J. PEREZ		
Robert J. Perez	Director	June 13, 2018
/s/ LESLEY RUSSELL, MB. CH.B., MRCP		
Lesley Russell, MB. Ch.B., MRCP	Director	June 13, 2018
/s/ GINO SANTINI	Director	
Gino Santini	Director	June 13, 2018
/s/ DAVEY SCOON		
Davey Scoon	Director	June 13, 2018
/s/ JAMES SULAT	Director	
James Sulat	Director II-7	June 13, 2018