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The information in this preliminary prospectus supplement is not complete and may be changed. This preliminary prospectus supplement is not an offer to sell these securities and it is not soliciting offers to buy these securities in any state where such offer or sale is not permitted.

Subject to completion, dated February 7, 2018

PRELIMINARY PROSPECTUS SUPPLEMENT
To Prospectus, dated September 12, 2017

Shares

GEMPHIRE THERAPEUTICS INC.

Common Stock

$ per share

- We are offering shares of common stock, par value $0.001 per share.
- On February 6, 2018, the last reported sale price of our common stock was $8.81 per share.
- Trading symbol: Nasdaq Global Market — GEMP

This investment involves risk. See "Risk Factors" beginning on page S-11 in the accompanying prospectus.

	Per Share	Total
Public offering price	$	$
Underwriting discount[1]	$	$
Proceeds, before expenses, to us	$	$

(1) In addition to the underwriting discount paid by us, we have also agreed to reimburse the underwriter for certain expenses. See "Underwriting."

The underwriter has a 30-day option to purchase up to additional shares of common stock from us.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement is truthful or complete. Any representation to the contrary is a criminal offense.

Piper Jaffray **Raymond James**

The date of this prospectus supplement is , 2018.

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ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or SEC, utilizing a "shelf" registration process. Under that shelf registration statement, we may, from time to time, offer and sell, either individually or in combination, in one or more offerings, up to a total dollar amount of $175,000,000 of any combination of the securities described in our base prospectus included in our shelf registration statement.

This prospectus supplement relates to the offering of our common stock. Before buying any of the common stock that we are offering, we urge you to carefully read this prospectus, together with the information incorporated by reference as described under the sections entitled "Where You Can Find More Information" and "Incorporation of Certain Information by Reference" in this prospectus supplement. These documents contain important information that you should consider when making your investment decision.

This prospectus supplement describes the terms of this offering of common stock and also adds to and updates information contained in the accompanying prospectus and documents incorporated by reference into the accompanying prospectus. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying prospectus or in any document incorporated by reference herein or therein that was filed with the SEC before the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date (for example, a document incorporated by reference herein or therein) the statement in the document having the later date modifies or supersedes the earlier statement.

You should rely only on the information contained in or incorporated by reference in this prospectus supplement, the accompanying prospectus and in any free writing prospectus that we may authorize for use in connection with this offering. We have not, and the underwriter has not, authorized any other person to provide you with different or inconsistent information. We and the underwriter are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted.

You should assume that the information appearing in this prospectus supplement, the accompanying prospectus and the documents incorporated herein and therein, and in any free writing prospectus that we may authorize for use in connection with this offering, is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus supplement, the accompanying prospectus and the documents incorporated herein and therein, and any free writing prospectus that we may authorize for use in connection with this offering, in their entirety before making an investment decision.

This prospectus supplement and the accompanying prospectus contains and incorporates by reference market data and industry statistics and forecasts that are based on independent industry publications and other publicly available information. Although we believe that these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not independently verified this information. Although we are not aware of any misstatements regarding the market and industry data presented in this prospectus supplement, the accompanying prospectus and the documents incorporated herein and therein, these estimates involve risks and uncertainties and are subject to change based on various factors, including those discussed under the heading "Risk Factors" in this prospectus supplement and under similar headings in the other documents that are incorporated by

reference herein and therein. Accordingly, investors should not place undue reliance on this information.

This prospectus supplement 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 have been incorporated by reference as exhibits to the registration statement of which this prospectus supplement is a part, and you may obtain copies of those documents as described below under the section entitled "Where You Can Find Additional Information."

This prospectus supplement contains references to trademarks belonging to us and other entities. Solely for convenience, trademarks and trade names referred to in this prospectus supplement, including logos, artwork and other visual displays, may appear without the ® or ™ symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks and trade names. We do not intend our use or display of other companies' trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein contain forward-looking statements. We may, in some cases, use words such as "anticipate," "believe," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "should," "will," "would" or the negative of those terms, and similar expressions that convey uncertainty of future events or outcomes to identify these forward-looking statements. Any statements contained herein that are not statements of historical facts may be deemed to be forward-looking statements. Forward-looking statements included or incorporated by reference in this prospectus supplement include, but are not limited to, statements about:

- our anticipated timing of regulatory submissions; commencement and completion of preclinical studies and clinical trials, meetings with the FDA and other regulatory authorities; and product approvals for gemcabene or any other product candidates we may pursue in the future;
- the outcome of our ongoing preclinical toxicology studies related to our partial clinical hold with respect to clinical trials of longer than six months in duration;
- the outcome of our Phase 2 and Phase 3 clinical trials of gemcabene and our ability to replicate positive results from a completed clinical trial in a future clinical trial;
- our expected clinical trial designs and regulatory pathways;
- our expectation that the FDA will not require us to complete a cardiovascular outcomes trial prior to approval;
- our expectations for the attributes of gemcabene or any other product candidate we may pursue in the future, including pharmaceutical properties, efficacy, safety, dosing regimens and cost, as compared to other lipid-lowering therapies;
- our ability to design an efficient development plan;
- our expectation that our existing capital resources will be sufficient to enable us to complete our planned late stage clinical trials and complete certain preclinical studies;
- our plans to advance the late-stage clinical development of gemcabene across multiple target indications, pursue oral combination opportunities for gemcabene, maximize the global commercial value of gemcabene and leverage the expertise and experience of our management team to evaluate future in-license acquisition opportunities;
- our estimates regarding industry trends and market potential for gemcabene;
- if approved, our ability to maintain regulatory approval of gemcabene and respond and adhere to regulatory requirements;
- our ability to identify, in-license or acquire, develop and, if approved, successfully commercialize best-in-class products, including gemcabene or any other product candidates we may pursue in the future;
- our ability to enhance brand awareness among key thought leaders and physicians;

- if approved, the rate and degree of market acceptance of gemcabene or any other product candidates we may pursue in the future;
- if approved, our ability to compete with other companies that are, or may be, developing or selling products that may compete with gemcabene;
- reimbursement policies, including any future changes to such policies or related government legislation and our ability to sell gemcabene, if approved;
- regulatory and legal developments in the United States and in foreign countries;
- our ability to obtain and maintain intellectual property protection for gemcabene or any other product candidates we may pursue in the future and not infringe upon the intellectual property of others;
- our ability to fund our working capital requirements;
- our estimates of our expenses, ongoing losses, future revenue, capital requirements and our needs for, or ability to, obtain additional financing;
- the ability of any third parties with whom we collaborate for the development and commercialization of gemcabene to successfully perform their assigned functions;
- our ability to retain and recruit key scientific and management personnel;
- our financial performance; and
- our expectations regarding the period during which we qualify as an emerging growth company under the JOBS Act.

These forward-looking statements reflect our management's beliefs and views with respect to future events and are based on estimates and assumptions as of the date they are made and are subject to risks and uncertainties. We discuss many of these risks in greater detail under the heading "Risk Factors" in this prospectus supplement, the accompanying prospectus and under the section entitled "Risk Factors" contained in our Annual Report on Form 10-K for the year ended December 31, 2016 and our Quarterly Reports on Form 10-Q for the quarters ended June 30, 2017 and September 30, 2017 and other filings we make with the SEC from time to time, which are incorporated by reference herein in their entirety. Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. Given these uncertainties, you should not place undue reliance on these forward-looking statements.

You should read this prospectus supplement and the accompanying prospectus, together with the documents we have filed with the SEC that are incorporated by reference, and any free writing prospectus that we may authorize for use in connection with this offering completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements included or incorporated by reference in the foregoing documents by these cautionary statements. Except as required by law, we undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events

or otherwise. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements.

In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date they are made, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

SUMMARY

This summary highlights selected information contained elsewhere in this prospectus supplement or incorporated by reference in this prospectus supplement, and does not contain all of the information that you need to consider in making your investment decision. You should carefully read the entire prospectus supplement, the accompanying prospectus and any related free writing prospectus that we authorize for use in connection with this offering, including the risks of investing in our securities discussed under the heading "Risk Factors" in this prospectus supplement and under similar headings in the accompanying prospectus and in the other documents that are incorporated by reference into this prospectus supplement and the accompanying prospectus. You should also carefully read the information incorporated by reference into this prospectus supplement and the accompanying prospectus, including our financial statements and the exhibits to the registration statement of which this prospectus supplement is a part.

Company Overview

Gemphire is a clinical-stage biopharmaceutical company that is committed to helping patients with cardiometabolic disorders, including dyslipidemia, nonalcoholic fatty liver disease (NAFLD) and nonalcoholic steatohepatitis (NASH). We are focused on providing new treatment options for cardiometabolic diseases through our complementary, convenient, product candidate, gemcabene, as add-on to the standard of care especially statins that will benefit patients, physicians, and payors. We are developing gemcabene (CI-1027), a novel, once-daily, oral therapy, for high risk cardiovascular patients who are unable to achieve normal levels of LDL-C or triglycerides with currently approved therapies, primarily statin therapy and for those patients who present with NAFLD or NASH. Gemcabene's mechanism of action is designed to enhance the clearance of very low-density lipoprotein (VLDL) remnants from the plasma and inhibit the production of fatty acids and cholesterol in the liver. Gemcabene is liver-directed and inhibits apolipoprotein C-III (apoC-III) mRNA expression in the liver and inhibits fatty acid and cholesterol synthesis in the liver. In cell based studies, gemcabene has been shown to inhibit cytokine induced C-reactive protein production, a pro-inflammatory biomarker. In preclinical animal models and in human clinical trials, gemcabene has been shown to significantly reduce plasma levels of C-reactive protein. In a clinical trial in obese non-diabetic subjects, gemcabene administration resulted in a doubling of the mean increase in glucose disposal rate compared to placebo suggesting potential effects on insulin sensitivity. Gemcabene has been tested as monotherapy and in combination with all approved doses of statins and with metformin, a common therapy for patients with diabetes, in nearly 1,100 subjects, including both healthy volunteers and patients, across 23 Phase 1 and Phase 2 clinical trials and has demonstrated promising evidence of efficacy, safety and tolerability.

Cardiovascular disease is a major health concern, causing more deaths globally than any other disease. Dyslipidemia leads to cardiovascular disease and is generally an important predictor of cardiovascular events including heart attack and stroke. Dyslipidemia is generally characterized by an elevation of low-density lipoprotein cholesterol (LDL-C), or bad cholesterol, triglycerides, or fat in the blood, or both. It represents one of the largest therapeutic areas with annual worldwide drug sales of approximately $22.0 billion in 2013. We estimate more than 40% of Americans have elevated LDL-C or triglycerides, or both. Statins, such as atorvastatin or rosuvastatin, are standard of care for LDL-C lowering, while fibrates, prescription fish oils and niacin are standard of care for triglyceride lowering. Although these drugs are highly prescribed and capable of reducing LDL-C and triglyceride levels, many patients are unable to effectively manage their dyslipidemia with currently approved therapies and are in need of additional treatment options. For example, approximately 40% of patients on statins are unable to meet their LDL-C lowering goal, and doubling a statin dose has been shown to incrementally lower LDL-C levels by a nominal percentage (approximately 6% based on historical evidence), while increasing safety and tolerability concerns. An even higher percentage of patients with

severe hypertriglyceridemia do not achieve triglyceride levels low enough to reduce the risk of developing co-morbidities such as pancreatitis.

NASH is part of a group of conditions called NAFLD. In the United States NAFLD affects one out of four people and NASH affects up to approximately 2-5% of the population, or between six to eight million people. The presentation of NASH resembles alcoholic liver disease but occurs in people who drink little or no alcohol. The major feature of NASH is excess fat content in the liver, along with inflammation and liver damage. Progression of NAFLD and NASH can lead to liver fibrosis, cirrhosis, hepatocellular carcinoma, liver failure and liver-related death. NASH is also associated with an increased risk of cardiovascular disease, which is a leading cause of death in this patient population. Prevalence of NASH has increased due to the growing number of obese and diabetic patients. It is more common in women than in men and currently there are no FDA approved therapies for treating NASH. Children diagnosed with NAFLD often have elevated serum lipids and diabetes or prediabetes and have a 13.6 times greater risk of dying over the next 20 years, than children without NAFLD. It is estimated that 10-25% of children with NAFLD progress to NASH and then advanced fibrosis/cirrhosis by their third or fourth decade of life. NAFLD is a major public health concern given the recent increase in its prevalence and link to obesity and other metabolic comorbidities. NAFLD has emerged as the leading cause of chronic liver disease in children and adolescents in the United States. A two-to three-fold rise in the rates of obesity in children over the last 20 years is likely responsible for the epidemic of NAFLD. It is estimated that 20% of children between the ages of 12 to 19 are obese, and 36% of obese children have NAFLD. NAFLD is estimated to affect seven million children overall in the United States. The estimated population prevalence for pediatric NASH is two million children.

Recent Developments

Pediatric NAFLD — Phase 2a Clinical Trial

In January 2018, the Company announced that it had initiated a Phase 2a proof-of-concept clinical trial investigating gemcabene as a treatment for pediatric NAFLD. Given the paucity of clinical trials in pediatric NAFLD, the Company anticipates relatively little competition in this segment of the market over the next several years.

The open label trial is expected to enroll approximately 40 adolescent children between the ages of 12 and 17 who are diagnosed with NAFLD and abnormal liver function as assessed by liver transaminases. Patients will receive gemcabene at a dose of 300 mg once daily. The primary endpoint is a measure of the change in serum alanine transaminase, an enzyme that serves as a biomarker of liver function, from baseline to 12 weeks. Secondary endpoints include change in hepatic steatosis as measured by non-invasive magnetic resonance imaging — proton density fat fraction (MRI-PDFF), change in liver inflammation and fibrosis score by non-invasive MRI liver multiscan, change in AST, insulin sensitivity, serum lipids (including triglycerides), apolipoproteins, and inflammatory markers (including hsCRP) as well as safety and tolerability. Top line results from the pediatric NAFLD trial are expected in early 2019.

The trial is part of a broader program to develop gemcabene in NAFLD/NASH, and will run in parallel with the recently initiated clinical trial investigating gemcabene in familial partial lipodystrophy ("FPL"), a rare genetic disorder and orphan disease characterized by an abnormal distribution of fatty (adipose) tissue, which can lead to a variety of metabolic abnormalities including NASH.

Adult NASH in FPL — Phase 2a Clinical Trial

In December 2017, the Company announced that it had initiated a Phase 2a study to assess the efficacy and safety of two dosing regimens of gemcabene in up to eight FPL patients with NAFLD and elevated plasma triglycerides. Patients will be randomized to two treatment groups, to receive either gemcabene 300 mg once daily for 24 weeks or gemcabene 300 mg once daily for 12 weeks immediately followed by gemcabene 600 mg once daily for an additional 12 weeks. The trial's primary endpoint is the reduction in plasma triglycerides after 12 weeks of treatment. Secondary endpoints will include measures of liver fat (MRI-PDFF) and NAS (histology) at 24 weeks. Patients who are considered responders (i.e., defined as liver fat lowering > 30% at Week 12) will be offered the opportunity for long-term therapy with gemcabene in a separate open-label extension study. Gemphire anticipates top line results from the trial in late 2018.

Intellectual Property

Gemphire recently announced the issuance of Patent No. US 9,849,104, "Treatment of NASH with Gemcabene", on December 26, 2017. The patent issued from one of two related patent applications that were filed in the United States and claim priority to an international PCT patent application filed on November 7, 2016. The Company intends to prosecute related applications throughout the world.

Corporate Information

We were formed in Michigan as Michigan Life Therapeutics, LLC (MLT) in November 2008. In October 2014, we incorporated a new entity under the name Gemphire Therapeutics Inc. in Delaware. MLT then merged with and into Gemphire, with Gemphire as the surviving entity. The purpose of the merger was to change the jurisdiction of our incorporation from Michigan to Delaware and to convert from a limited liability company to a corporation. Our principal executive offices are located at 17199 N. Laurel Park Dr., Suite 401, Livonia, Michigan 48152, and our telephone number is (734) 245-1700. Our corporate website address is www.gemphire.com. Information contained on or accessible through our website is not a part of this prospectus supplement, and the inclusion of our website address in this prospectus supplement is an inactive textual reference only.

Implications of Being an Emerging Growth Company

As a company with less than $1.07 billion in revenue during fiscal year 2016, we qualify as an "emerging growth company," as defined in the Jumpstart Our Business Startups Act (JOBS Act) enacted in April 2012. As an "emerging growth company" we are:

- permitted to present only two years of audited financial statements and only two years of related Management's Discussion and Analysis of Financial Condition and Results of Operations in the accompanying prospectus;
- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended;
- permitted to take advantage of reduced disclosure obligations regarding executive compensation in our periodic reports, proxy statements and registration statements; and
- permitted to take advantage of exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We may use these provisions until the last day of our fiscal year following the fifth anniversary of the closing of our initial public offering. However, if certain events occur prior to the end of such five-year period, including if we become a "large accelerated filer," our annual gross revenue exceeds $1.07 billion or we issue more than $1.0 billion of non-convertible debt in any three-year period, we will cease to be an emerging growth company prior to the end of such five-year period. We have elected to take advantage of certain of the reduced disclosure obligations in the registration statement of which this prospectus supplement is a part and may elect to take advantage of other reduced reporting requirements in future filings. As a result, the information that we provide to our stockholders may be different than you might receive from other public reporting companies in which you hold equity interests.

The JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. We have irrevocably elected not to avail ourselves of this exemption and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

THE OFFERING

Issuer	Gemphire Therapeutics Inc.
Common stock offered	shares of common stock. We have also granted the underwriter an option to purchase up to additional shares of common stock, within 30 days after the date of this prospectus supplement.
Common stock outstanding after the offering	shares
Offering price	$ per share
Use of proceeds	We will receive net proceeds from this offering of approximately $ million, after deducting the underwriting discount and estimated offering expenses payable by us. We currently intend to use the net proceeds from the sale of shares of our common stock in this offering for working capital and general corporate purposes. See "Use of Proceeds" on page S-13.
Risk factors	The shares of common stock offered hereby involve a high degree of risk. See "Risk Factors" beginning on page S-11.
Nasdaq Global Market symbol	"GEMP"

The above discussion and table are based on 10,633,042 shares of our common stock outstanding as of January 31, 2018, and exclude:

- 978,204 shares of common stock subject to outstanding warrants to purchase common stock;
- 2,936,140 shares of common stock issuable upon the exercise of outstanding stock options, having a weighted average exercise price of $9.57 per share; and
- 155,406 shares of our common stock reserved for future issuance under our equity incentive plans.

RISK FACTORS

Investing in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks and uncertainties described below and discussed under "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2016, our Quarterly Reports on Form 10-Q for the quarters ended June 30, 2017 and September 30, 2017 and other filings we make with the SEC from time to time, which are incorporated by reference herein in their entirety, together with other information in this prospectus supplement, the accompanying prospectus and in the documents incorporated by reference herein and therein. The risks described in these documents are not the only ones we face, but those that we consider to be material. There may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that could have material adverse effects on our future results. Past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. Please also read carefully the section below entitled "Special Note Regarding Forward-Looking Statements."

Additional Risks Related to This Offering

Our management team may invest or spend the proceeds of this offering in ways with which you may not agree or in ways which may not yield a significant return.

Our management will have broad discretion over the use of proceeds from this offering. The net proceeds from this offering will be used for working capital and general corporate purposes, which may include, among other things, funding research and development, clinical trials, vendor payables, potential regulatory submissions, hiring additional personnel and capital expenditures. We may also use a portion of the net proceeds to in-license, acquire or invest in complementary businesses or products; however, we have no current commitments or obligations to do so.

Our management will have considerable discretion in the application of the net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. The net proceeds may be used for corporate purposes that do not increase our operating results or enhance the value of our common stock. Pending their use, we may invest the net proceeds from this offering in short-term, investment-grade, interest-bearing securities. These investments may not yield a favorable return to our stockholders. If we do not invest or apply the net proceeds from this offering in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

You may experience immediate and substantial dilution in the net tangible book value per share of the common stock you purchase.

The price per share of our common stock being offered may be higher than the net tangible book value per share of our common stock outstanding prior to this offering. Assuming that an aggregate of shares are sold at a price of $ per share, for aggregate net proceeds of $ in this offering, and after deducting the underwriting discount and estimated offering expenses payable by us, you will suffer immediate and substantial dilution of $ per share, representing the difference between the as adjusted net tangible book value per share of our common stock as of September 30, 2017 after giving effect to this offering and the assumed offering price. See the section entitled "Dilution" below for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering.

You may experience future dilution as a result of future equity offerings.

To raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may not be the same as the price per share in this offering. We may sell shares or other securities in any other offering at a price per share that is less than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be higher or lower than the price per share paid by investors in this offering.

USE OF PROCEEDS

We estimate that the net proceeds from this offering will be approximately $ million, (or $ million if the underwriter's option to purchase additional shares is exercised in full), after deducting estimated underwriting discount and estimated offering expenses that are payable by us.

We intend to use approximately $ million of the net proceeds for working capital and general corporate purposes, which may include, among other things, funding research and development, clinical trials, vendor payables, potential regulatory submissions, hiring additional personnel and capital expenditures. We may also use a portion of the net proceeds to in-license, acquire or invest in complementary businesses or products, although we have no current plans, commitments or arrangements with respect to any acquisitions as of the date of this prospectus supplement.

The amounts and timing of our actual expenditures will depend on numerous factors, including our development and commercialization efforts, as well as the amount of cash used in our operations. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering, and investors will be relying on the judgment of our management regarding the application of the net proceeds from this offering. We therefore cannot estimate with certainty the amount of net proceeds to be used for the purposes described above. We may find it necessary or advisable to use the net proceeds for other purposes. Pending the uses described above, we plan to invest the net proceeds from this offering in short-term, investment-grade, interest-bearing obligations, certificates of deposit or obligations of the United States.

Based on the planned use of proceeds described above, we believe that the net proceeds from this offering and our existing cash, cash equivalents and marketable securities will be sufficient to enable us to fund our operating expenses and capital expenditure requirements into . We have based this estimate on assumptions that may prove to be incorrect, and we could use our available capital resources sooner than we currently expect.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and our capitalization as of September 30, 2017, (i) on an actual basis, and (ii) on an as-adjusted basis to give effect to the sale by us of shares of our common stock in this offering at a public offering price of $ per share, after deducting the underwriting discount and estimated offering expenses payable by us. The information presented below is based on our unaudited financial statements as of September 30, 2017.

You should read the following table together with "Management's Discussion and Analysis of Financial Condition and Results of Operations," "Description of Capital Stock" and the financial statements and related notes appearing in the accompanying prospectus and the documents incorporated by reference therein.

	As of September 30, 2017	
	Actual	As Adjusted
	(unaudited) (in thousands except share data)	
Cash and cash equivalents	$ 25,340	$
Stockholders' equity:		
Preferred stock, $0.001 par value, 10,000,000 shares authorized, 0 shares issued and outstanding	—	
Common stock, $0.001 par value; 100,000,000 shares authorized, 10,633,042 shares issued and outstanding, actual, and shares issued and outstanding, as adjusted[1]	18	
Additional paid-in capital	63,659	
Accumulated deficit	(53,728)	
Total stockholders' equity	9,949	
Total capitalization	$ 9,949	$

(1) The table and calculations above are based on the number of shares of common stock outstanding as of September 30, 2017, and exclude:

- 978,204 shares of common stock subject to warrants to purchase common stock outstanding as of September 30, 2017;
- 2,464,140 shares of common stock issuable upon the exercise of stock options, having a weighted average exercise price of $9.46 per share outstanding as of September 30, 2017; and
- 212,329 shares of our common stock reserved for future issuance under our equity incentive plans.

DILUTION

Our historical net tangible book value as of September 30, 2017 was approximately $9.9 million, or $0.93 per share. Historical net tangible book value per share is determined by dividing our total tangible assets, less total liabilities, by the number of shares of our common stock outstanding as of September 30, 2017. Dilution with respect to net tangible book value per share represents the difference between the amount per share paid by purchasers of shares of common stock in this offering and the net tangible book value per share of our common stock immediately after this offering.

After giving effect to the sale of shares of our common stock in this offering, and after deducting the underwriting discount and offering expenses payable by us, our as adjusted net tangible book value as of September 30, 2017 would have been approximately $ million, or $ per share. This represents an immediate increase in net tangible book value of $ per share to existing stockholders and immediate dilution of $ per share to investors purchasing our common stock in this offering at the assumed public offering price. The following table illustrates this dilution on a per share basis:

Public offering price per share	$
Net tangible book value per share of as September 30, 3017	$ 0.93
Increase in net tangible book value per share attributable to this offering	$
As adjusted net tangible book value per share as of September 30, 2017, after giving effect to this offering	$
Dilution per share to investors purchasing our common stock in this offering	$

If the underwriters exercise their option to purchase additional shares of common stock in full, our as adjusted net tangible book value will increase to $ per share, representing an immediate increase in net tangible book value to existing stockholders of $ per share and immediate dilution in net tangible book value of $ per share to new investors.

The above discussion and table are based on 10,633,042 shares of our common stock outstanding as of September 30, 2017, and exclude:

- 978,204 shares of common stock subject to warrants to purchase common stock outstanding as of September 30, 2017;
- 2,464,140 shares of common stock issuable upon the exercise of stock options, having a weighted average exercise price of $9.46 per share outstanding as of September 30, 2017; and
- 212,329 shares of our common stock reserved for future issuance under our equity incentive plans.

To the extent that options or warrants have been or may be exercised or other shares issued, investors purchasing our common stock in this offering may experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

UNDERWRITING

We and the underwriters for the offering named below have entered into an underwriting agreement with respect to the shares of common stock being offered. Subject to the terms and conditions of the underwriting agreement, each underwriter has severally agreed to purchase from us the number of shares of common stock set forth opposite its name below.

Underwriter	Number of Shares
Piper Jaffray & Co.	
Raymond James & Associates, Inc.	
Total	

The underwriting agreement provides that the obligations of the underwriters are subject to certain conditions precedent and that the underwriters have agreed, severally and not jointly, to purchase all of the shares of common stock sold under the underwriting agreement if any of these shares are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the non-defaulting underwriters may be increased or the underwriting agreement may be terminated.

We have agreed to indemnify the underwriters against specified liabilities, including liabilities under the Securities Act, and to contribute to payments the underwriters may be required to make in respect thereof.

The underwriters are offering the shares of common stock, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel and other conditions specified in the underwriting agreement. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Certain affiliates of our directors and officers have expressed an interest in participating in this offering on the same terms as those offered to other investors.

Discounts and Commissions

The following table shows the underwriting fees to be paid to the underwriters in connection with this offering. These amounts are shown assuming both no exercise and full exercise of the option to purchase additional shares.

	No Exercise	Full Exercise
Per Share	$	$
Total	$	$

We estimate that the total expenses of this offering of common stock, excluding the underwriting discount, will be approximately $ million, and such expenses are payable by us. We have also agreed to reimburse the underwriters for certain of their expenses as set forth in the underwriting agreement, in an amount not to exceed $, which amount is deemed to be underwriting compensation by FINRA.

The underwriters propose to offer the shares of common stock to the public at the public offering price set forth on the cover of this prospectus. The underwriters may offer the shares of common stock to securities dealers at the public offering price less a concession not in excess of $ per share. If all of the shares are not sold at the public offering price, the underwriters may change the offering price and other selling terms. Sales of shares of common stock made outside of the United States may be made by affiliates of certain of the underwriters. Certain of the underwriters may sell shares to the public through one or more of their affiliates as selling agents.

Our common stock is listed on the Nasdaq Global Market under the trading symbol "GEMP." The shares of common stock offered hereby will be listed on the Nasdaq Global Market.

Price Stabilization, Short Positions and Penalty Bids

In connection with this offering of common stock, the underwriters may engage in stabilizing transactions, short sales, purchases to cover positions created by short sales and penalty bids.

- Stabilizing transactions permit bids to purchase shares of common stock so long as the stabilizing bids do not exceed a specified maximum, and are engaged in for the purpose of preventing or retarding a decline in the market price of the common stock while the offering is in progress.

- Short sales involve sales by the underwriters of shares of common stock in excess of the number of shares the underwriters are obligated to purchase in this offering. This creates a syndicate short position, which would be a naked short position The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that after pricing there could be downward pressure on the price of the shares in the open market that could adversely affect investors who purchase in the offering.

- Penalty bids permit the representative to reclaim a selling concession from a syndicate member when the common stock originally sold by that syndicate member is purchased in stabilizing or syndicate covering transactions to cover syndicate short positions.

These stabilizing transactions, syndicate covering transactions and penalty bids may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock in the open market may be higher than it would otherwise be in the absence of these transactions. Neither we nor the underwriters make any representation or prediction as to the effect that the transactions described above may have on the price of shares of our common stock. These transactions may be effected on the Nasdaq Global Market, in the over-the-counter market or otherwise and, if commenced, may be discontinued at any time.

Lock-up Agreements

Pursuant to certain "lock-up" agreements, we and our executive officers and directors have agreed, subject to certain exceptions, not to offer, pledge, announce the intention to sell, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, make any short sale or otherwise transfer or dispose of or announce the intention to otherwise dispose of, or enter into any swap, hedge or similar agreement or arrangement that transfers, in whole or in part, the economic consequence of ownership of, directly or indirectly, or make any demand or request or exercise any right with respect to the registration of any common stock or securities convertible into or exchangeable or exercisable for any common stock without the

prior written consent of Piper Jaffray & Co., for a period of 90 days after the date of the underwriting agreement.

This lock-up provision applies to common stock and to securities convertible into or exchangeable or exercisable for common stock. It also applies to common stock owned now or acquired later by the person executing the agreement or for which the person executing the agreement later acquires the power of disposition. The lock-up agreements include customary exceptions.

Piper Jaffray & Co., in its sole discretion, may release our common stock and other securities subject to the lock-up agreements described above in whole or in part at any time. When determining whether or not to release our common stock and other securities from lock-up agreements, Piper Jaffray & Co. will consider, among other factors, the holder's reasons for requesting the release, the number of shares for which the release is being requested and market conditions at the time of the request.

Electronic Offer, Sale and Distribution of Shares

A prospectus in electronic format may be made available on the websites maintained by one or more of the underwriters or selling group members, if any, participating in this offering and one or more of the underwriters participating in this offering may distribute prospectuses electronically. The representative may agree to allocate a number of shares to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the underwriters and selling group members that will make internet distributions on the same basis as other allocations. Other than the prospectus in electronic format, the information on these websites is not part of this prospectus or the registration statement of which this prospectus forms a part, has not been approved or endorsed by us or any underwriter in its capacity as underwriter, and should not be relied upon by investors.

Other Relationships

Certain of the underwriters and their affiliates have provided, and may in the future provide, various investment banking, commercial banking and other financial services for us and our affiliates for which they have received, and may in the future receive, customary fees.

We are currently party to an equity distribution agreement with Piper Jaffray & Co., pursuant to which we may sell from time to time up to $50.0 million of our common stock through an "at-the-market" equity offering program.

Selling Restrictions

No action has been taken in any jurisdiction except the United States that would permit a public offering of our common stock, or the possession, circulation or distribution of this prospectus or any other material relating to us or our common stock in any jurisdiction where action for that purpose is required. Accordingly, the shares may not be offered or sold, directly or indirectly, and neither this prospectus nor any other offering material or advertisements in connection with the shares may be distributed or published, in or from any country or jurisdiction except in compliance with any applicable rules and regulations of any such country or jurisdiction.

Canada

The securities may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 *Prospectus Exemptions* or subsection 73.3(1) of the *Securities Act* (Ontario), and are permitted clients, as defined in National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*. Any resale of the securities must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 *Underwriting Conflicts* (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

United Kingdom

Each of the underwriters has, separately and not jointly, represented and agreed that:

- it has not made or will not make an offer of the securities to the public in the United Kingdom within the meaning of section 102B of the Financial Services and Markets Act 2000 (as amended), or the FSMA, except to legal entities which are authorized or regulated to operate in the financial markets or, if not so authorized or regulated, whose corporate purpose is solely to invest in securities or otherwise in circumstances which do not require the publication by us of a prospectus pursuant to the Prospectus Rules of the Financial Services Authority, or FSA;

- it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of section 21 of FSMA) to persons who have professional experience in matters relating to investments falling within Article 19(5) of the FSMA (Financial Promotion) Order 2005 or in circumstances in which section 21 of FSMA does not apply to us; and

- it has complied with and will comply with all applicable provisions of FSMA with respect to anything done by it in relation to the securities in, from or otherwise involving the United Kingdom.

Switzerland

The securities which are the subject of the offering contemplated by this prospectus may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange, or SIX, or on any other stock exchange or regulated trading facility in Switzerland. This prospectus has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. None of this prospectus or any other offering or marketing material relating to the

securities or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

None of this prospectus or any other offering or marketing material relating to the offering, us or the securities have been or will be filed with or approved by any Swiss regulatory authority. In particular, this prospectus will not be filed with, and the offer of securities will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA and the offer of securities has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes, or CISA. The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of the securities.

Japan

The underwriters will not offer or sell any of the shares of our common stock directly or indirectly in Japan or to, or for the benefit of any Japanese person or to others, for re-offering or re-sale directly or indirectly in Japan or to any Japanese person, except in each case pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Law of Japan and any other applicable laws and regulations of Japan. For purposes of this paragraph, "Japanese person" means any person resident in Japan, including any corporation or other entity organized under the laws of Japan.

The Netherlands

The offering of the shares of our common stock is not a public offering in The Netherlands. The shares of our common stock may not be offered or sold to individuals or legal entities in The Netherlands unless (i) a prospectus relating to the offer is available to the public, which has been approved by the Dutch Authority for the Financial Markets (Autoriteit Financiële Markten) or by the competent supervisory authority of another state that is a member of the European Union or party to the Agreement on the European Economic Area, as amended or (ii) an exception or exemption applies to the offer pursuant to Article 5:3 of The Netherlands Financial Supervision Act (Wet op het financieel toezicht) or Article 53 paragraph 2 or 3 of the Exemption Regulation of the Financial Supervision Act, for instance due to the offer targeting exclusively "qualified investors" (gekwalificeerde beleggers) within the meaning of Article 1:1 of The Netherlands Financial Supervision Act.

European Economic Area

In relation to each Member State of the European Economic Area, or the EEA, which has implemented the European Prospectus Directive (each, a "Relevant Member State"), an offer of our shares may not be made to the public in a Relevant Member State other than:

- to any legal entity which is a qualified investor, as defined in the European Prospectus Directive;
- to fewer than 150 natural or legal persons (other than qualified investors as defined in the European Prospectus Directive), subject to obtaining the prior consent of the relevant dealer or dealers nominated by us for any such offer; or
- in any other circumstances falling within Article 3(2) of the European Prospectus Directive;

provided that no such offer of our shares shall require us or any underwriter to publish a prospectus pursuant to Article 3 of the European Prospectus Directive or supplement prospectus pursuant to Article 16 of the European Prospectus Directive.

For the purposes of this description, the expression an "offer to the public" in relation to the securities in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the securities to be offered so as to enable an investor to decide to purchase or subscribe for the securities, as the expression may be varied in that Relevant Member State by any measure implementing the European Prospectus Directive in that member state, and the expression "European Prospectus Directive" means Directive 2003/71/EC (and amendments hereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State) and includes any relevant implementing measure in each Relevant Member State. The expression "2010 PD Amending Directive" means Directive 2010/73/EU.

We have not authorized and do not authorize the making of any offer of securities through any financial intermediary on our behalf, other than offers made by the underwriters and their respective affiliates, with a view to the final placement of the securities as contemplated in this document. Accordingly, no purchaser of the shares, other than the underwriters, is authorized to make any further offer of shares on our behalf or on behalf of the underwriters.

France

This prospectus has not been prepared in the context of a public offering of financial securities in France within the meaning of Article L.411-1 of the French Code Monétaire et Financier and Title I of Book II of the Reglement Général of the Autorité des marchés financiers (the "AMF") and therefore has not been and will not be filed with the AMF for prior approval or submitted for clearance to the AMF. Consequently, the shares of our common stock may not be, directly or indirectly, offered or sold to the public in France and offers and sales of the shares of our common stock may only be made in France to qualified investors (investisseurs qualifiés) acting for their own, as defined in and in accordance with Articles L.411-2 and D.411-1 to D.411-4, D.734-1, D.744-1, D.754-1 and D.764-1 of the French Code Monétaire et Financier. Neither this prospectus nor any other offering material may be released, issued or distributed to the public in France or used in connection with any offer for subscription on sale of the shares of our common stock to the public in France. The subsequent direct or indirect retransfer of the shares of our common stock to the public in France may only be made in compliance with Articles L.411-1, L.411-2, L.412-1 and L.621-8 through L.621-8-3 of the French Code Monétaire et Financier.

Germany

Each person who is in possession of this prospectus is aware of the fact that no German securities prospectus (wertpapierprospekt) within the meaning of the securities prospectus act (wertpapierprospektgesetz, or the act) of the Federal Republic of Germany has been or will be published with respect to the shares of our common stock. In particular, each underwriter has represented that it has not engaged and has agreed that it will not engage in a public offering in the Federal Republic of Germany (ôffertliches angebot) within the meaning of the act with respect to any of the shares of our common stock otherwise than in accordance with the act and all other applicable legal and regulatory requirements.

Hong Kong

The underwriters and each of their affiliates have not (1) offered or sold, and will not offer or sell, in Hong Kong, by means of any document, any shares of our common stock other than (a) to

"professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance or (b) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance; and (2) issued or had in its possession for the purposes of issue, and will not issue or have in its possession for the purposes of issue, whether in Hong Kong or elsewhere any advertisement, invitation or document relating to the shares of our common stock which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to the shares of our common stock which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance and any rules made under that Ordinance. The contents of this document have not been reviewed by any regulatory authority in Hong Kong. You are advised to exercise caution in relation to the offer. If you are in any doubt about any of the contents of this document, you should obtain independent professional advice.

Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares may not be circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor pursuant to Section 274 of the Securities and Futures Act, Chapter 289 of Singapore ("SFA"), (ii) to a relevant person (as defined in Section 275(2) of the SFA), or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased pursuant to an offer made in reliance on Section 275 of the SFA by a relevant person which is:

(a) a corporation (which is not an accredited investor) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

(b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary is an accredited investor, then shares, debentures and units of shares, and debentures of that corporation, or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferable for six months after that corporation or that trust has acquired the shares under Section 275 except:

(1) to an institutional investor or to a relevant person (as defined in Section 275(2) of the SFA), or any person pursuant to Section 275(1A) of the SFA (in the case of that corporation) or Section 276(4)(i)(B) of the SFA (in the case of that trust);

(2) where no consideration is or will be given for the transfer; or

(3) where the transfer is by operation of law.

LEGAL MATTERS

The validity of the common stock offered by this prospectus supplement will be passed upon by Honigman Miller Schwartz and Cohn LLP, Kalamazoo, Michigan. Certain legal matters relating to this offering will be passed upon for the underwriters by Cooley LLP, New York, New York.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our financial statements and schedule included in our Annual Report on Form 10-K for the year ended December 31, 2016, which is incorporated by reference into this prospectus supplement and the accompanying prospectus. The financial statements and schedule audited by Ernst & Young LLP have been incorporated by reference in reliance on their report given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

This prospectus supplement and the accompanying prospectus are part of the registration statement on Form S-3 we filed with the SEC under the Securities Act and does not contain all the information set forth in the registration statement. Whenever a reference is made in this prospectus supplement or the accompanying prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference herein and therein for a copy of such contract, agreement or other document. We file reports, proxy statements and other information with the SEC in accordance with the Exchange Act. You may read and copy our reports, proxy statements and other information filed by us at the public reference room of the SEC located at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information about the public reference rooms. Our reports, proxy statements and other information filed with the SEC are available free of charge to the public over the Internet at the SEC's website at http://www.sec.gov.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

SEC rules allow us to "incorporate by reference" much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference into this prospectus supplement and the accompanying prospectus is considered to be part of this prospectus supplement. These documents may include Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements. You should read the information incorporated by reference because it is an important part of this prospectus supplement.

This prospectus supplement incorporates by reference the documents listed below, other than those documents or the portions of those documents deemed to be furnished and not filed in accordance with SEC rules:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed with the SEC on March 21, 2017 (including information specifically incorporated by reference therein from our Proxy Statement filed with the SEC on April 6, 2017);
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2017, June 30, 2017 and September 30, 2017, which were filed on May 10, 2017, August 14, 2017 and November 13, 2017, respectively;
- our Current Reports on Form 8-K filed with the SEC on February 7, 2017, March 10, 2017, March 13, 2017, May 24, 2017, May 30, 2017, June 28, 2017, July 25, 2017, August 7, 2017, September 19, 2017 and September 25, 2017; and
- the description of our common stock contained in our registration statement on Form 8-A filed on June 20, 2016, including any amendments or reports filed for the purpose of updating such description.

We also incorporate by reference all documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act on or after the date of this prospectus supplement but prior to the termination of this offering. These documents include periodic reports, such as Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements.

Any statement contained herein or in a document incorporated or deemed to be incorporated by reference into this document will be deemed to be modified or superseded for purposes of the document to the extent that a statement contained in this document or any other subsequently filed document that is deemed to be incorporated by reference into this document modifies or supersedes the statement.

You can obtain any of the filings incorporated by reference in this prospectus supplement on our website at www.gemphire.com. Information contained in, or accessible through, our website is not a part of this prospectus supplement or the accompanying prospectus.

We will provide without charge to each person, including any beneficial owners, to whom this prospectus supplement and accompanying prospectus is delivered, upon his or her written or oral request, a copy of any or all reports or documents referred to above which have been or may be incorporated by reference herein or therein but not delivered with this prospectus supplement,

excluding exhibits to those reports or documents unless they are specifically incorporated by reference into those documents. You may request a copy of these documents by writing or telephoning us at the following address.

Gemphire Therapeutics Inc.
17199 N. Laurel Park Dr., Suite 401
Livonia, Michigan 48152
(734) 245-1700
Attention: Jeffrey S. Mathiesen
Chief Financial Officer

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PROSPECTUS

$175,000,000
Common Stock
Preferred Stock
Debt Securities
Warrants
Subscription Rights

From time to time, we may offer and sell up to an aggregate amount of $175,000,000 of any combination of the securities described in this prospectus, either individually or in combination, in one or more offerings. We may also offer securities as may be issuable upon conversion, redemption, repurchase, exchange or exercise of any securities registered hereunder, including any applicable antidilution provisions.

This prospectus describes some of the general terms that may apply to an offering of our securities. Each time we offer securities, we will provide the specific terms of these offerings and securities in one or more supplements to this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. The prospectus supplement and any related free writing prospectus may also add, update or change information contained in this prospectus. You should carefully read this prospectus, the applicable prospectus supplement and any related free writing prospectus, as well as any documents incorporated by reference, before buying any of the securities being offered.

This prospectus may not be used to consummate a sale of securities unless accompanied by a prospectus supplement.

Securities may be sold by us to or through underwriters or dealers, directly to purchasers or through agents designated from time to time. For additional information on the methods of sale, you should refer to the section titled "Plan of Distribution" in this prospectus and in the applicable prospectus supplement. If any underwriters are involved in the sale of any securities with respect to which this prospectus is being delivered, the names of such underwriters and any applicable discounts or commissions and over-allotment options will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds we expect to receive from such sale will also be set forth in a prospectus supplement.

Our common stock is listed on the NASDAQ Global Market under the trading symbol "GEMP." On August 31, 2017, the last reported sale price of our common stock was $9.64 per share. The applicable prospectus supplement will contain information, where applicable, as to other listings, if any, on the NASDAQ Global Market or other securities exchange of the securities covered by the applicable prospectus supplement.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading "Risk Factors" on page 9 of this prospectus and any similar section contained in the applicable prospectus supplement and in any free writing prospectuses we may authorize for use in connection with a specific offering, and under similar headings in the documents that are incorporated by reference into this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is September 12, 2017.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or SEC, using a "shelf" registration process. Under this shelf registration statement, we may, from time to time, offer and sell, either individually or in combination, in one or more offerings, up to a total dollar amount of $175,000,000 of any combination of the securities described in this prospectus.

This prospectus provides you with a general description of the securities we may offer. Each time we offer securities under this prospectus, we will provide a prospectus supplement that will contain more specific information about the terms of that 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. The prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change any of the information contained in this prospectus or in the documents that we have incorporated by reference into this prospectus. We urge you to read carefully this prospectus, any applicable prospectus supplement and any free writing prospectuses we may authorize for use in connection with a specific offering, together with the information incorporated herein by reference as described under the heading "Incorporation of Certain Information by Reference," before buying any of the securities being offered.

This Prospectus May Not be Used to Consummate a Sale of Securities Unless it is Accompanied by a Prospectus Supplement.

You should rely only on the information contained in, or incorporated by reference into, this prospectus and any applicable prospectus supplement, along with the information contained in any free writing prospectuses we may authorize for use in connection with a specific offering. We have not authorized anyone to provide you with different or additional information. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus, the accompanying prospectus supplement or in any related free writing prospectus that we 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.

The information appearing in this 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 we have 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. Our business, financial condition, results of operations and prospects may have changed since those dates.

This prospectus contains and incorporates by reference market data and industry statistics and forecasts that are based on independent industry publications and other publicly available information. Although we believe that these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not independently verified this information. Although we are not aware of any misstatements regarding the market and industry data presented in this prospectus and the documents incorporated herein by reference, these estimates involve risks and uncertainties and are subject to change based on various factors, including those discussed under the heading "Risk Factors" 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 into this prospectus. Accordingly, investors should not place undue reliance on this information.

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 section entitled "Where You Can Find Additional Information."

This prospectus contains references to trademarks belonging to us and other entities. Solely for convenience, trademarks and trade names referred to in this prospectus, including logos, artwork and other visual displays, may appear without the ® or ™ symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks and trade names. We do not intend our use or display of other companies' trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

PROSPECTUS SUMMARY

This summary highlights selected information contained elsewhere in this prospectus or incorporated by reference in this prospectus, and does not contain all of the information that you need to consider in making your investment decision. You should carefully read the entire prospectus, the applicable prospectus supplement and any related free writing prospectus, including the risks of investing in our securities discussed under the heading "Risk Factors" 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 into this prospectus. You should also carefully read the information incorporated by reference into this prospectus, including our financial statements, and the exhibits to the registration statement of which this prospectus is a part. Unless the context requires otherwise, references in this prospectus to "Gemphire," "we," "us," "the Company" and "our" refer to Gemphire Therapeutics Inc.

Company Overview

Gemphire is a clinical-stage biopharmaceutical company that is committed to helping patients with cardiometabolic disorders, including dyslipidemia and NASH. We are focused on providing new treatment options for cardiometabolic diseases through our complementary, convenient, cost-effective product candidate, gemcabene, as add-on to the standard of care especially statins that will benefit patients, physicians, and payors. We are developing our product candidate gemcabene (CI-1027), a novel, once-daily, oral therapy, for high risk cardiovascular patients who are unable to achieve normal levels of LDL-C or triglycerides with currently approved therapies, primarily statin therapy and for those patients who present with NASH. Gemcabene's mechanism of action is designed to enhance the clearance of very low-density lipoproteins (VLDLs) remnants from the plasma and inhibit the production of fatty acids and cholesterol in the liver. Gemcabene is liver-directed and inhibits apolipoprotein C-III (apoC-III) mRNA expression in the liver and inhibits fatty acid and cholesterol synthesis in liver. In cell based studies, gemcabene has been shown to inhibit cytokine induced C-reactive protein production, an inflammatory marker. In preclinical animal models and in human clinical trials, gemcabene has been shown to significantly reduce plasma levels of C-reactive protein. Gemcabene has been tested as monotherapy and in combination with all doses of statins and other drugs in 956 subjects, which we define as healthy volunteers and patients, across 20 Phase 1 and Phase 2 clinical trials and has demonstrated promising evidence of efficacy, safety and tolerability.

Cardiovascular disease is a major health concern, causing more deaths globally than any other disease. Dyslipidemia leads to cardiovascular disease and is generally an important predictor of cardiovascular events including heart attack and stroke. Dyslipidemia is generally characterized by an elevation of low-density lipoprotein cholesterol (LDL-C), or bad cholesterol, triglycerides, or fat in the blood, or both. It represents one of the largest therapeutic areas with annual worldwide drug sales of approximately $22 billion in 2013. We estimate more than 40% of Americans have elevated LDL-C or triglycerides, or both. Statins, such as atorvastatin or rosuvastatin, are standard of care for LDL-C lowering, while fibrates, prescription fish oils and niacin are standard of care for triglyceride lowering. Although these drugs are highly prescribed and capable of reducing LDL-C and triglyceride levels, many patients are unable to effectively manage their dyslipidemia with currently approved therapies and are in need of additional treatment options. For example, approximately 40% of patients on statins are unable to meet their LDL-C lowering goal, and doubling a statin dose has shown to incrementally lower LDL-C levels by a nominal percentage (approximately 6% based on historical evidence), while increasing safety and tolerability concerns. An even higher percentage of patients with severe hypertriglyceridemia do not achieve triglyceride levels low enough to reduce the risk of developing co-morbidities such as pancreatitis.

Non-alcoholic steatohepatitis (NASH) is part of a group of conditions called nonalcoholic fatty liver disease (NAFLD) that affects one out of four people in the United States. In the United States NASH affects up to approximately 2-5% of the population, or between six to eight million people. The presentation of NASH resembles alcoholic liver disease but occurs in people who drink little or no alcohol. The major feature of NASH is excess fat content in the liver, along with inflammation and liver damage. It can lead to liver cirrhosis, fibrosis, hepatocellular carcinoma, liver failure, liver-related death and liver transplantation. NASH can also lead to an increased risk of cardiovascular disease, which is a leading cause of death in this patient population. Prevalence of NASH has increased due to the growing number of obese and diabetic patients. It is more common in women than in men and currently there are no FDA approved therapies for treating NASH.

Corporate Information

We were formed in Michigan as Michigan Life Therapeutics, LLC (MLT) in November 2008. In October 2014, we incorporated a new entity under the name Gemphire Therapeutics Inc. in Delaware. MLT then merged with and into Gemphire, with Gemphire as the surviving entity. The purpose of the merger was to change the jurisdiction of our incorporation from Michigan to Delaware and to convert from a limited liability company to a corporation. Our principal executive offices are located at 17199 N. Laurel Park Dr., Suite 401, Livonia, Michigan 48152, and our telephone number is (734) 245-1700. Our corporate website address is www.gemphire.com. Information contained on or accessible through our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only.

Implications of Being an Emerging Growth Company

As a company with less than $1.07 billion in revenue during our last fiscal year, we qualify as an "emerging growth company," as defined in the Jumpstart Our Business Startups Act (JOBS Act) enacted in April 2012. As an "emerging growth company" we are:

- permitted to present only two years of audited financial statements and only two years of related Management's Discussion and Analysis of Financial Condition and Results of Operations disclosure;
- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended;
- permitted to take advantage of reduced disclosure obligations regarding executive compensation in our periodic reports, proxy statements and registration statements; and
- permitted to take advantage of exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We may use these provisions until the last day of our fiscal year following the fifth anniversary of the closing of our initial public offering. However, if certain events occur prior to the end of such five-year period, including if we become a "large accelerated filer," our annual gross revenue exceeds $1.07 billion or we issue more than $1.0 billion of non-convertible debt in any three-year period, we will cease to be an emerging growth company prior to the end of such five-year period. We have elected to take advantage of certain of the reduced disclosure obligations in the registration statement of which this prospectus is a part and documents incorporated by reference into this prospectus and may elect to take advantage of other reduced reporting requirements in future filings. As a result, the

information that we provide to our stockholders may be different than you might receive from other public reporting companies in which you hold equity interests.

The JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. We have irrevocably elected not to avail ourselves of this exemption and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

The Securities We May Offer

We may offer shares of our common stock and preferred stock, various series of debt securities, warrants to purchase any of such securities and/or subscription rights to purchase any of such securities, either individually or in combination, up to a total dollar amount of $175,000,000, from time to time under this prospectus, together with the applicable prospectus supplement and any related free writing prospectus, at prices and on terms to be determined by market conditions at the time of any offering. We may also offer common stock, preferred stock and/or debt securities upon the exercise of warrants or subscription rights. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities, including, to the extent applicable:

- designation or classification;
- aggregate principal amount or aggregate offering price;
- maturity date, if applicable;
- original issue discount, if any;
- rates and times of payment of interest or dividends, if any;
- redemption, conversion, exercise, exchange or sinking fund terms, if any;
- conversion or exchange prices or rates, if any, and, if applicable, any provisions for changes to or adjustments in the conversion or exchange prices or rates and in the securities or other property receivable upon conversion or exchange;
- ranking;
- restrictive covenants, if any;
- voting or other rights, if any; and
- material or special U.S. federal income tax considerations, if any.

The applicable prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change any of the information contained in this prospectus or in the documents we have incorporated by reference. However, no prospectus supplement or free writing prospectus will offer a security that is not registered and described in this prospectus at the time of the effectiveness of the registration statement of which this prospectus is a part.

This Prospectus May Not be Used to Consummate a Sale of Securities Unless it is Accompanied by a Prospectus Supplement.

We may sell the securities directly to investors or to or through agents, underwriters or dealers. We and our agents or underwriters reserve the right to accept or reject all or part of any proposed purchase of securities. If we do offer securities to or through agents or underwriters, we will include in the applicable prospectus supplement:

- the names of those agents or underwriters;
- applicable fees, discounts and commissions to be paid to them;
- details regarding over-allotment options, if any; and
- the net proceeds to us.

Common Stock. We may issue shares of our common stock from time to time. The holders of our common stock are entitled to one vote for each share held of record on all matters submitted to a vote of the stockholders, including the election of directors. Subject to preferences that may be applicable to any then outstanding preferred stock, the holders 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. Holders of our common stock have no preemptive, conversion or subscription rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock that we may designate and issue in the future. In this prospectus, we have summarized certain general features of the common stock under "Description of Capital Stock — Common Stock." We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectus that we may authorize to be provided to you) related to any common stock being offered.

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 designations, voting powers, preferences and rights of the preferred stock, as well as the qualifications, limitations or restrictions thereof, 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 your option and would be at prescribed conversion rates.

If we sell any series of preferred stock under this prospectus, we will fix the designations, voting powers, preferences and rights of the preferred stock of each series we issue under this prospectus, as well as the qualifications, limitations or restrictions thereof, 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 contains the terms of the series of preferred stock we are offering. In this prospectus, we have summarized certain general features of the preferred stock under "Description of Capital Stock — Preferred Stock." We urge you, however, to read the applicable prospectus supplement (and

any related free writing prospectus that we may 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.

Debt Securities. We may issue debt securities from time to time, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. The senior debt securities will rank equally with any other unsecured and unsubordinated debt. The subordinated debt securities will be subordinate and junior in right of payment, to the extent and in the manner described in the instrument governing the debt, to all of our senior indebtedness. Convertible debt securities will be convertible into or exchangeable for our common stock or other securities. Conversion may be mandatory or at your option and would be at prescribed conversion rates.

Any debt securities issued under this prospectus will be issued under one or more documents called indentures, which are contracts between us and a national banking association or other eligible party, as trustee. In this prospectus, we have summarized certain general features of the debt securities under "Description of 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 series of debt securities being offered, as well as the complete indentures that contain the terms of the debt securities. We have filed the form of 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.

Warrants. We may issue warrants for the purchase of common stock, preferred stock and/or debt securities in one or more series. We may issue warrants independently or in combination with common stock, preferred stock and/or debt securities. In this prospectus, we have summarized certain general features of the warrants under "Description of Warrants." We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectus that we may authorize to be provided to you) related to the particular series of warrants being offered, as well as any warrant agreements and warrant certificates that contain the terms of the warrants. We have filed forms of the warrant agreements and forms of warrant certificates containing the terms of the warrants that may be offered as exhibits to the registration statement of which this prospectus is a part. 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 warrant and/or the warrant agreement and warrant certificate, as applicable, that contain the terms of the particular series of warrants we are offering, and any supplemental agreements, before the issuance of such warrants.

Any warrants issued under this prospectus may be evidenced by warrant certificates. Warrants also 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.

Subscription Rights. We may offer subscription rights to purchase our common stock, preferred stock or debt securities. We may issue subscription rights independently or together with other securities. Our board of directors or a committee designated by our board of directors will determine the terms of the subscription rights. In this prospectus, we have summarized certain general features of the subscription rights under "Description of Subscription Rights." We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectus that we may authorize to be provided to you) related to the particular subscription rights being offered, as well as any subscription rights certificates that contain the terms thereof. 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 subscription rights certificate containing the terms of the particular rights we are offering, and any supplemental agreements, before the issuance of such rights.

Use of Proceeds

Except as described in any applicable prospectus supplement or in any free writing prospectuses we may authorize for use in connection with a specific offering, we currently intend to use the net proceeds from the sale of the securities offered by us hereunder, if any, for working capital, capital expenditures and general corporate purposes. See "Use of Proceeds" in this prospectus.

NASDAQ Global Market Listing

Our common stock is listed on the NASDAQ Global Market under the trading symbol "GEMP." The applicable prospectus supplement will contain information, where applicable, as to other listings, if any, on the NASDAQ Global Market or other securities exchange of the securities covered by the applicable prospectus supplement.

Ratio of Earnings to Fixed Charges and Combined Fixed Charges and Preferred Stock Dividends

The financial information provided in the table below should be read in conjunction with our financial statements and the related notes incorporated by reference into this prospectus. The following table shows our ratio of earnings to fixed charges and the ratio of our earnings to combined fixed charges and preferred stock dividends for the periods indicated. Our net losses were inadequate to cover the fixed charges and combined fixed charges and preferred stock dividends for each of the periods presented. Because of these deficiencies, the ratio information is not applicable for the periods presented. For purposes of calculating these deficiencies, earnings consist of loss from continuing operations before income taxes and fixed charges. Fixed charges consist of interest expense and the portion of rent expense which we believe is representative of the interest component of rental expense. This table is qualified by the more detailed information appearing in the computation table set forth in Exhibit 12.1 to the registration statement of which this prospectus is a part.

	Year Ended December 31,			Six Months Ended June 30,
(in thousands)	2014	2015	2016	2017
Ratio of earnings to fixed charges	N/A	N/A	N/A	N/A
Ratio of earnings to combined fixed charges and preferred stock dividends	N/A	N/A	N/A	N/A
Deficiency of earnings to fixed charges	$ (320)	$ (9,029)	$ (14,586)	$ (17,998)
Deficiency of earnings to combined fixed charges and preferred stock dividends[1]	$ (320)	$ (9,029)	$ (15,402)	(17,998)

(1) Represents deficiency of earnings to fixed charges and preferred stock dividends during the periods in which our Series A convertible preferred stock with dividend rights was outstanding. In connection with our initial public offering in August 2016, we issued 81,568 shares of common stock with an aggregate fair value of $0.8 million to the holders of our Series A convertible preferred stock in settlement of the cumulative dividends. All shares of our Series A convertible preferred stock were converted to common stock upon the closing of our initial public offering and are no longer outstanding. As of June 30, 2017, we had no shares of preferred stock outstanding, and we are not required to pay dividends on any shares of our outstanding capital stock.

RISK FACTORS

Investing in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks and uncertainties described under the heading "Risk Factors" contained in the applicable prospectus supplement and any related free writing prospectus, and discussed under "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2016, our Quarterly Report on Form 10-Q for the quarter ended June 30, 2017 and other filings we make with the SEC from time to time, which are incorporated by reference herein in their entirety, together with other information in this prospectus, the applicable prospectus supplement, any related free writing prospectus and in the documents incorporated by reference therein. The risks described in these documents are not the only ones we face, but those that we consider to be material. There may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that could have material adverse effects on our future results. Past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. Please also read carefully the section below entitled "Special Note Regarding Forward-Looking Statements."

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein contain forward-looking statements. We may, in some cases, use words such as "anticipate," "believe," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "should," "will," "would" or the negative of those terms, and similar expressions that convey uncertainty of future events or outcomes to identify these forward-looking statements. Any statements contained herein that are not statements of historical facts may be deemed to be forward-looking statements. Forward-looking statements included or incorporated by reference in this prospectus include, but are not limited to, statements about:

- our anticipated timing of regulatory submissions; commencement and completion of preclinical studies and clinical trials, meetings with the FDA and other regulatory authorities; and product approvals for gemcabene or any other product candidates we may pursue in the future;
- the outcome of our ongoing preclinical toxicology studies related to our partial clinical hold with respect to clinical trials of longer than six months in duration;
- the outcome of our Phase 2 and Phase 3 clinical trials of gemcabene and our ability to replicate positive results from a completed clinical trial in a future clinical trial;
- our expected clinical trial designs and regulatory pathways;
- our expectation that the FDA will not require us to complete a cardiovascular outcomes trial prior to approval;
- our expectations for the attributes of gemcabene or any other product candidate we may pursue in the future, including pharmaceutical properties, efficacy, safety, dosing regimens and cost, as compared to other lipid-lowering therapies;
- our ability to design an efficient development plan;

- our expectation that our existing capital resources will be sufficient to enable us to complete our planned late stage clinical trials and complete certain preclinical studies;
- our plans to advance the late-stage clinical development of gemcabene across multiple target indications, pursue oral combination opportunities for gemcabene, maximize the global commercial value of gemcabene and leverage the expertise and experience of our management team to evaluate future in-license acquisition opportunities;
- our estimates regarding industry trends and market potential for gemcabene;
- if approved, our ability to maintain regulatory approval of gemcabene and respond and adhere to regulatory requirements;
- our ability to identify, in-license or acquire, develop and, if approved, successfully commercialize best-in-class products, including gemcabene or any other product candidates we may pursue in the future;
- our ability to enhance brand awareness among key thought leaders and physicians;
- if approved, the rate and degree of market acceptance of gemcabene or any other product candidates we may pursue in the future;
- if approved, our ability to compete with other companies that are, or may be, developing or selling products that may compete with gemcabene;
- reimbursement policies, including any future changes to such policies or related government legislation and our ability to sell gemcabene, if approved;
- regulatory and legal developments in the United States and in foreign countries;
- our ability to obtain and maintain intellectual property protection for gemcabene or any other product candidates we may pursue in the future and not infringe upon the intellectual property of others;
- our ability to fund our working capital requirements;
- our estimates of our expenses, ongoing losses, future revenue, capital requirements and our needs for, or ability to, obtain additional financing;
- our ability to attract strategic partnering relationships, as appropriate, for the development and commercialization of gemcabene;
- the ability of any third parties with whom we collaborate for the development and commercialization of gemcabene to successfully perform their assigned functions;
- our ability to retain and recruit key scientific and management personnel;
- our financial performance; and
- our expectations regarding the period during which we qualify as an emerging growth company under the JOBS Act.

These forward-looking statements reflect our management's beliefs and views with respect to future events and are based on estimates and assumptions as of the date they are made and are subject to risks and uncertainties. We discuss many of these risks in greater detail under the heading "Risk Factors" contained in the applicable prospectus supplement and any related free writing prospectus and under the section entitled "Risk Factors" contained in our most recent Annual Report on Form 10-K and other filings we make with the SEC from time to time, which are incorporated by reference herein in their entirety. Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. Given these uncertainties, you should not place undue reliance on these forward-looking statements.

You should read this prospectus, any applicable prospectus supplement, together with the documents we have filed with the SEC that are incorporated by reference and any free writing prospectus that we may authorize for use in connection with this offering completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements included or incorporated by reference in the foregoing documents by these cautionary statements. Except as required by law, we undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements.

In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date they are made, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

USE OF PROCEEDS

Except as described in any applicable prospectus supplement or in any free writing prospectuses that we may authorize to be provided to you in connection with a specific offering, we currently intend to use the net proceeds from the sale of the securities offered hereby, if any, for working capital, capital expenditures and general corporate purposes. We may also use a portion of the net proceeds to in-license, acquire or invest in businesses or products that we believe are complementary to our own, although we have no current plans, commitments or agreements with respect to any acquisitions as of the date of this prospectus. We will set forth in the applicable prospectus supplement or free writing prospectus our intended use for the net proceeds received from the sale of any securities sold pursuant to the prospectus supplement or free writing prospectus. Pending these uses, we plan to invest these net proceeds in short-term, interest bearing obligations, certificates of deposit or direct or guaranteed obligations of the United States.

DESCRIPTION OF CAPITAL STOCK

The following is a summary of the material terms and some of the provisions of our amended and restated certificate of incorporation and amended and restated bylaws and of the Delaware General Corporation Law as well as the registration rights under our amended investor rights agreement. This summary is not complete. For more detailed information, please see our amended and restated certificate of incorporation, amended and restated bylaws and investor rights agreement, as amended, which are incorporated by reference as exhibits to the registration statement of which this prospectus is a part, as well as the relevant provisions of the Delaware General Corporation Law.

Our authorized capital stock consists of 100,000,000 shares of common stock, par value $0.001 per share, and 10,000,000 shares of preferred stock, par value $0.001 per share. All of our authorized preferred stock is undesignated.

Common Stock

Voting Rights. Our common stock is entitled to one vote for each share held of record on all matters submitted to a vote of the stockholders, including the election of directors, and does not have cumulative voting rights. Accordingly, the holders of a plurality of the shares of our common stock present at the meeting and entitled to vote in any election of directors can elect all of the directors standing for election. For most other matters, the approval of a majority of the shares voting at an annual or special meeting of stockholders will be required. Exceptions to this include removing directors for cause and amending certain sections of our amended and restated certificate of incorporation and amended and restated bylaws, each of which will require the approval of the holders of at least $66^2/_3$% of the voting power of all of our then outstanding capital stock.

Dividends. Subject to preferences that may be applicable to any then outstanding preferred stock, the holders 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. We have never issued a dividend on shares of our common stock and have no intention to do so in the future.

Liquidation. 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.

Rights and Preferences. Holders of our common stock have no preemptive, conversion or subscription rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock that we may designate and issue in the future.

Fully Paid and Nonassessable. All of our outstanding shares of common stock are fully paid and nonassessable.

Preferred Stock

Our board of directors is authorized, subject to limitations prescribed by Delaware law, without further action by the stockholders, to issue up to 10,000,000 shares of preferred stock in one or more series, to establish from time to time the number of shares to be included in each such series, to fix the rights, preferences and privileges of the shares of each wholly unissued series and any qualifications, limitations or restrictions thereon and to increase or decrease the number of shares of any such series,

but not below the number of shares of such series then outstanding. Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of the common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in our control that may otherwise benefit holders of our common stock and may adversely affect the market price of the common stock and the voting and other rights of the holders of common stock.

We will fix the designations, voting powers, preferences and rights of the preferred stock of each series we may issue under this prospectus, as well as the qualifications, limitations or restrictions thereof, 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 contains the terms of the series of preferred stock we are offering. We will describe in the applicable prospectus supplement the terms of the series of preferred stock being offered, including, to the extent applicable:

- the title and stated value;
- the number of shares we are offering;
- the liquidation preference per share;
- the purchase price;
- the dividend rate, period and payment date and method of calculation for dividends;
- whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;
- the procedures for any auction and remarketing, if applicable;
- the provisions for a sinking fund, if applicable;
- the provisions for redemption or repurchase, if applicable, and any restrictions on our ability to exercise those redemption and repurchase rights;
- any listing of the preferred stock on any securities exchange or market;
- whether the preferred stock will be convertible into our common stock, and, if applicable, the conversion price, or how it will be calculated, and the conversion period;
- whether the preferred stock will be exchangeable into debt securities, and, if applicable, the exchange price, or how it will be calculated, and the exchange period;
- voting rights of the preferred stock;
- preemptive rights, if any;
- restrictions on transfer, sale or other assignment;
- whether interests in the preferred stock will be represented by depositary shares;

- a discussion of material United States federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights if we liquidate, dissolve or wind up our affairs;
- any limitations on the issuance of any class or series of preferred stock ranking senior to or on a parity with the series of preferred stock as to dividend rights and rights if we liquidate, dissolve or wind up our affairs; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the preferred stock.

Registration Rights — Investors' Rights Agreement

Certain holders of our common stock, or their transferees, are entitled to the registration rights set forth below with respect to registration of the resale of such shares under the Securities Act pursuant to the investors' rights agreement by and among us and certain of our stockholders and convertible noteholders.

Demand Registration Rights

At any time upon the written request of certain of the holders of the registrable securities then outstanding that we file a registration statement under the Securities Act covering the registration of the registrable securities having an aggregate offering price to the public of not less than $5 million, we will be obligated to notify all holders of registrable securities of such request and to use our reasonable best efforts to register the sale of all registrable securities that holders may request to be registered. We are not required to effect more than two registration statements which are declared or ordered effective. We may postpone the filing or effectiveness of a registration statement for up to 90 days once in any twelve month period if our board of directors determines in its good faith judgment that such registration and offering would materially and adversely affect us.

"Piggyback" Registration Rights

If we register any securities for public sale, holders of registration rights will have the right to include their shares in the registration statement. These piggyback registration rights are subject to specified conditions and limitations, including the right of the underwriters of any underwritten offering to limit the number of shares having registration rights to be included in the registration statement, but not below 30% of the total number of shares included in the registration statement.

Form S-3 Registration Rights

Holders of at least 20% of the outstanding registrable securities will have the right to demand that we file a registration statement on Form S-3 so long as the aggregate price to the public of the securities to be sold under the registration statement on Form S-3 is at least $5 million. We are not required to effect more than two registrations on Form S-3 in any 12-month period. The right to have such shares registered on Form S-3 is further subject to other specified conditions and limitations. Upon such a request, we will be required to use our reasonable best efforts to file the registration as soon as practicable.

Expenses of Registration

Generally, we are required to bear all registration expenses incurred in connection with the demand, piggyback and Form S-3 registrations described above. All selling expenses incurred in connection with such registrations shall be borne by the holders of the securities so registered.

Expiration of Registration Rights

The demand, piggyback and Form S-3 registration rights discussed above will terminate upon the earlier of (i) five years following the closing of our initial public offering or (ii) after the consummation of a liquidation event or, as to any holder of registrable securities, the date on which such holder is able to dispose of all of its registrable securities in a single transaction pursuant to Rule 144 of the Securities Act.

Registration Rights — Registration Rights Agreement

In connection with the private placement we consummated in March 2017, certain holders of our common stock and the holders of our outstanding warrants are entitled to the registration rights set forth below with respect to registration of the resale of such shares under the Securities Act pursuant to the registration rights agreement by and among us and the private placement investors.

We agreed to file, within 30 calendar days following the closing of the private placement, a registration statement on Form S-1 with the Commission covering the resale of the shares of common stock sold in the private placement and the shares of common stock underlying the warrants sold in the private placement. Such registration statement was filed with the Commission on April 13, 2017 and declared effective by the Commission on April 20, 2017. We also agreed to undertake to register the registrable securities on a registration statement on Form S-3 promptly after such form is available to us. Such resale registration statement on Form S-3 is expected to be filed with the Commission simultaneously with the filing of the registration statement of which this prospectus forms a part. We have agreed to keep the registration statement continuously effective until the earlier of (i) such time as all of the registrable securities have been publicly sold by the holders or (ii) the date that all registrable securities may be sold by non-affiliates without volume or manner-of-sale restrictions pursuant to Rule 144, without the requirement that we are in compliance with the current public information requirement under Rule 144.

Anti-Takeover Provisions

Delaware Anti-Takeover Law

We are subject to Section 203 of the Delaware General Corporation Law, or Section 203. Section 203 generally prohibits a public Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless:

- prior to the date of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- the interested stockholder owned at least 85% of the voting stock of the corporation outstanding upon consummation of the transaction, excluding for purposes of determining the number of shares outstanding (a) shares owned by persons who are directors and also officers and (b) shares owned by employee stock plans in which employee participants do

not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

- on or subsequent to the consummation of the transaction, the business combination is approved by the board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least $66^{2}/3$% of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition involving the interested stockholder of 10% or more of the assets of the corporation;
- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder; and
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Provisions of our amended and restated certificate of incorporation and amended and restated bylaws may delay or discourage transactions involving an actual or potential change in our control or change in our management, including transactions in which stockholders might otherwise receive a premium for their shares or transactions that our stockholders might otherwise deem to be in their best interests. Therefore, these provisions could adversely affect the price of our common stock. Among other things, our amended and restated certificate of incorporation and amended and restated bylaws:

- permit our board of directors to issue up to 10,000,000 shares of preferred stock, with any rights, preferences and privileges as they may designate;
- provide that the authorized number of directors may be changed only by resolution adopted by a majority of the board of directors;
- provide that the board of directors or any individual director may only be removed with cause and the affirmative vote of the holders of at least $66^{2}/3$% of the voting power of all of our then outstanding capital stock;
- provide that all vacancies, including newly created directorships, may, except as otherwise required by law or subject to the rights of holders of preferred stock as designated from

time to time, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;

- divide our board of directors into three classes;
- require that any action to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and not be taken by written consent or electronic transmission;
- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide notice in writing in a timely manner and also specify requirements as to the form and content of a stockholder's notice;
- do not provide for cumulative voting rights, which means that holders of a majority of the shares of common stock entitled to vote in any election of directors can elect all of the directors standing for election;
- provide that special meetings of our stockholders may only be called by the chairman of the board of directors, our Chief Executive Officer or by the board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors (whether or not any vacancies exist); and
- provide that the Court of Chancery of the State of Delaware will be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors or officers to us or our stockholders, (iii) any action asserting a claim against us arising pursuant to any provision of the DGCL, or (iv) any action asserting a claim against us governed by the internal affairs doctrine.

The amendment of any of these provisions, with the exception of the ability of our board of directors to issue shares of preferred stock and designate any rights, preferences and privileges thereto, would require the affirmative vote of the holders of at least $66^{2}/3$% of the voting power of all of our then outstanding capital stock.

Listing on the NASDAQ Global Market

Our common stock is listed on the NASDAQ Global Market the symbol "GEMP". The applicable prospectus supplement will contain information, where applicable, as to any other listing, if any, on the NASDAQ Global Market or any securities market or other exchange of the preferred stock covered by such prospectus supplement.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare, Inc. The transfer agent and registrar's address is 250 Royal Street, Canton, Massachusetts 02021 and the telephone number is 781-575-2000. The transfer agent for any series of preferred stock that we may offer under this prospectus will be named and described in the prospectus supplement related to that series.

DESCRIPTION OF DEBT SECURITIES

We may issue debt securities from time to time, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. While the terms we have summarized below will apply generally to any debt securities that we may offer under this prospectus, we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement. The terms of any debt securities offered under a prospectus supplement may differ from the terms described below. Unless the context requires otherwise, whenever we refer to the indenture, we also are referring to any supplemental indentures that specify the terms of a particular series of debt securities.

We will issue the debt securities under the indenture that we will enter into with the trustee named in the indenture. The indenture will be qualified under the Trust Indenture Act of 1939, as amended, or the Trust Indenture Act. We have filed the form of 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 following summary of material provisions of the debt securities and the indenture is subject to, and qualified in its 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 supplements and any related free writing prospectuses related to the debt securities that we may offer under this prospectus, as well as the complete indenture that contains the terms of the debt securities.

General

The indenture does not limit the amount of debt securities that we may issue. It provides that we may issue debt securities up to the principal amount that we may authorize and may be in any currency or currency unit that we may designate. Except for the limitations on consolidation, merger and sale of all or substantially all of our assets contained in the indenture, the terms of the indenture do not contain any covenants or other provisions designed to give holders of any debt securities protection against changes in our operations, financial condition or transactions involving us.

We may issue the debt securities issued under the indenture as "discount securities," which means they may be sold at a discount below their stated principal amount. These debt securities, as well as other debt securities that are not issued at a discount, may be issued with "original issue discount," or OID, for U.S. federal income tax purposes because of interest payment and other characteristics or terms of the debt securities. Material U.S. federal income tax considerations applicable to debt securities issued with OID will be described in more detail in any applicable prospectus supplement.

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

- the title of the series of debt securities;
- any limit upon the aggregate principal amount that may be issued;
- the maturity date or dates;
- the form of the debt securities of the series;

- the applicability of any guarantees;
- whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- whether the debt securities rank as senior debt, senior subordinated debt, subordinated debt or any combination thereof, and the terms of any subordination;
- if the price (expressed as a percentage of the aggregate principal amount thereof) at which such debt securities will be issued is a price other than the principal amount thereof, the portion of the principal amount thereof payable upon declaration of acceleration of the maturity thereof, or if applicable, the portion of the principal amount of such debt securities that is convertible into another security or the method by which any such portion shall be determined;
- the interest rate or rates, 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;
- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- if applicable, the date or dates after which, or the period or periods during which, and the price or prices 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 or dates, if any, on which, and the price or prices 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;
- the denominations in which we will issue the series of debt securities, if other than denominations of $1,000 and any integral multiple thereof;
- any and all terms, if applicable, relating to any auction or remarketing of the debt securities of that series and any security for our obligations with respect to such debt securities and any other terms which may be advisable in connection with the marketing of debt securities of that series;
- whether the debt securities of the series shall be issued in whole or in part in the form of a global security or securities;
- the terms and conditions, if any, upon which such global security or securities may be exchanged in whole or in part for other individual securities, and the depositary for such global security or securities;
- if applicable, the provisions relating to conversion or exchange of any debt securities of the series and the terms and conditions upon which such debt securities will be so convertible or exchangeable, including the conversion or exchange price, as applicable, or

how it will be calculated and may be adjusted, any mandatory or optional (at our option or the holders' option) conversion or exchange features, the applicable conversion or exchange period and the manner of settlement for any conversion or exchange;

- if other than the full principal amount thereof, the portion of the principal amount of debt securities of the series which shall be payable upon declaration of acceleration of the maturity thereof;
- additions to or changes in the covenants applicable to the particular debt securities being issued, including, among others, the consolidation, merger or sale covenant;
- additions to or changes in the events of default with respect to the securities and any change in the right of the trustee or the holders to declare the principal, premium, if any, and interest, if any, with respect to such securities to be due and payable;
- additions to or changes in or deletions of the provisions relating to covenant defeasance and legal defeasance;
- additions to or changes in the provisions relating to satisfaction and discharge of the indenture;
- additions to or changes in the provisions relating to the modification of the indenture both with and without the consent of holders of debt securities issued under the indenture;
- 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;
- whether interest will be payable in cash or additional debt securities at our or the holders' option and the terms and conditions upon which the election may be made;
- the terms and conditions, if any, upon which we will pay amounts in addition to the stated interest, premium, if any and principal amounts of the debt securities of the series to any holder that is not a "United States person" for federal tax purposes;
- any restrictions on transfer, sale or assignment of the debt securities of the series; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, any other additions or changes in the provisions of the indenture, and any terms that may be required by us or advisable under applicable laws or regulations.

Conversion or Exchange Rights

We will set forth in the applicable prospectus supplement the terms on which a series of debt securities may be convertible into or exchangeable for our common stock or our other securities. We will include provisions as to settlement upon conversion or exchange and 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 or our other securities 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 applicable to a particular series of debt securities, the indenture will not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of our assets as an entirety or substantially as an entirety. However, any successor to or acquirer of such assets (other than a subsidiary of ours) must assume all of our obligations under the indenture or the debt securities, as appropriate.

Events of Default under the Indenture

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

- if we fail to pay any installment of interest on any series of debt securities, as and when the same shall become due and payable, and such default continues for a period of 90 days; provided, however, that a valid extension of an interest payment period by us in accordance with the terms of any indenture supplemental thereto shall not constitute a default in the payment of interest for this purpose;

- if we fail to pay the principal of, or premium, if any, on any series of debt securities as and when the same shall become due and payable whether at maturity, upon redemption, by declaration or otherwise, or in any payment required by any sinking or analogous fund established with respect to such series; provided, however, that a valid extension of the maturity of such debt securities in accordance with the terms of any indenture supplemental thereto shall not constitute a default in the payment of principal or premium, if any;

- if we fail to observe or perform any other covenant or agreement contained in the debt securities or the indenture, other than a covenant specifically relating to another series of debt securities, and our failure continues for 90 days after we receive written notice of such failure, requiring the same to be remedied and stating that such is a notice of default thereunder, 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.

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 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 of, premium, if any, and accrued interest, if any, of such series of debt securities due and payable immediately. If an event of default specified in the last bullet point above occurs with respect to us, the principal amount of 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 indenture, 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. 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 indenture or to appoint a receiver or trustee, or to seek other remedies only 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;
- such holders have offered to the trustee indemnity satisfactory to it against the costs, expenses and liabilities to be incurred by the trustee in compliance with the request; 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.

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

Modification of Indenture; Waiver

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, we and the trustee may change an indenture without the consent of any holders with respect to specific matters:

- to cure any ambiguity, defect or inconsistency in the indenture or in the debt securities of any series;
- to comply with the provisions described above under "Description of Debt Securities — Consolidation, Merger or Sale;"

- to provide for uncertificated debt securities in addition to or in place of certificated debt securities;
- to add to our covenants, restrictions, conditions or provisions such new covenants, restrictions, conditions or provisions for the benefit of the holders of all or any series of debt securities, 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 upon us in the indenture;
- 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 the indenture;
- to make any change that does not adversely affect the interests of any holder of debt securities of any series in any material respect;
- to provide for the issuance of and establish the form and terms and conditions of the debt securities of any series as provided above under "Description of Debt Securities — General" to establish the form of any certifications required to be furnished pursuant to the terms of the 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 under any indenture by a successor trustee; or
- to comply with any requirements of the SEC in connection with the qualification of any indenture under the Trust Indenture Act.

In addition, under the indenture, 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, unless we provide otherwise in the prospectus supplement 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 fixed maturity of any debt securities of any series;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption of any series 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

The indenture provides that 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:

- provide for payment;

- register the transfer or exchange of debt securities of the series;
- replace stolen, lost or mutilated debt securities of the series;
- pay principal of and premium and interest on any 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, if any, 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 provide otherwise in the applicable prospectus supplement, in denominations of $1,000 and any integral multiple thereof. The indenture provides 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 DTC, or another depositary named by us and identified in the applicable prospectus supplement with respect to that series. To the extent the debt securities of a series are issued in global form and as book-entry, a description of terms relating to any book-entry securities will be set forth in the applicable prospectus supplement.

At the option of the holder, subject to the terms of the indenture and the limitations applicable to global securities described in the applicable prospectus supplement, 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 indenture and the limitations applicable to global securities set forth in the applicable prospectus supplement, 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 impose 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 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 of 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 indenture 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, 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, 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, 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 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 indenture 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.

DESCRIPTION OF WARRANTS

The following description, together with the additional information we may include in any applicable prospectus supplements and free writing prospectuses, summarizes the material terms and provisions of the warrants that we may offer under this prospectus, which may consist of warrants to purchase common stock, preferred stock or debt securities and may be issued in one or more series. Warrants may be issued independently or together with common stock, preferred stock or debt securities offered by any prospectus supplement, and may be attached to or separate from those securities. While the terms we have summarized below will apply generally to any warrants that we may offer under this prospectus, we will describe the particular terms of any series of warrants that we may offer in more detail in the applicable prospectus supplement and any applicable free writing prospectus. The terms of any warrants offered under a prospectus supplement may differ from the terms described below.

We have filed forms of the warrant agreements and warrant certificates as exhibits to the registration statement of which this prospectus is a part. 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 warrant agreement, if any, including a form of warrant certificate, that describes the terms of the particular series of warrants we are offering. The following summaries of material provisions of the warrants and the warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to the particular series of warrants that we may offer under this prospectus. We urge you to read the applicable prospectus supplements related to the particular series of warrants that we may offer under this prospectus, as well as any related free writing prospectuses, and the complete warrant agreements and warrant certificates that contain the terms of the warrants.

General

We will describe in the applicable prospectus supplement the terms relating to a series of warrants being offered, including:

- the title of such securities;
- the offering price or prices and aggregate number of warrants offered;
- the currency or currencies for which the warrants may be purchased;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- if applicable, the minimum or maximum amount of such warrants which may be exercised at any one time;
- in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant and the price at which, and currency in which, this principal amount of debt securities may be purchased upon such exercise;
- in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the

exercise of one warrant and the price at which, and the currency in which, these shares may be purchased upon such exercise;

- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreements and the warrants;
- the terms of any rights to redeem or call the warrants;
- the terms of any rights to force the exercise of the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreements and warrants may be modified;
- a discussion of any material or special U.S. federal income tax consequences of holding or exercising the warrants;
- the terms of the securities issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise, including:

- in the case of warrants to purchase debt securities, the right to receive payments of principal of, or premium, if any, or interest on, the debt securities purchasable upon exercise or to enforce covenants in the applicable indenture; or
- in the case of warrants to purchase common stock or preferred stock, the right to receive dividends, if any, or, payments upon our liquidation, dissolution or winding up or to exercise voting rights, if any.

Exercise of Warrants

Each warrant will entitle the holder to purchase the securities that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants by delivering the warrant certificate representing the warrants to be exercised together with specified information, and paying the required amount to the warrant agent in immediately available funds, as provided in the applicable prospectus supplement. We will set forth on the reverse side of the warrant certificate and in the applicable prospectus supplement the information

that the holder of the warrant will be required to deliver to the warrant agent in connection with the exercise of the warrant.

Upon receipt of the required payment and the warrant certificate properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement, we will issue and deliver the securities purchasable upon such exercise. If fewer than all of the warrants represented by the warrant certificate are exercised, then we will issue a new warrant certificate for the remaining amount of warrants. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender securities as all or part of the exercise price for warrants.

Governing Law

Unless we provide otherwise in the applicable prospectus supplement, the warrants and warrant agreements, and any claim, controversy or dispute arising under or related to the warrants or warrant agreements, will be governed by and construed in accordance with the laws of the State of New York.

Enforceability of Rights by Holders of Warrants

Each warrant agent will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A single bank or trust company may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action its right to exercise, and receive the securities purchasable upon exercise of, its warrants.

DESCRIPTION OF SUBSCRIPTION RIGHTS

The following description, together with the additional information we may include in any applicable prospectus supplements and free writing prospectuses, summarizes the material terms and provisions of the subscription rights that we may offer under this prospectus, which may consist of rights to purchase common stock, preferred stock or debt securities and may be issued in one or more series. Subscription rights may be issued independently or together with common stock, preferred stock, debt securities or warrants offered by any prospectus supplement, may be attached to or separate from those securities and may or may not be transferrable by the stockholder receiving the subscription rights in such offering. While the terms we have summarized below will apply generally to any subscription rights that we may offer under this prospectus, we will describe the particular terms of any subscription rights that we may offer in more detail in the applicable prospectus supplement and any applicable free writing prospectus. The terms of any subscription rights offered under a prospectus supplement may differ from the terms described below. In connection with any offering of subscription rights, we may enter into a standby arrangement with one or more underwriters or other purchasers pursuant to which the underwriters or other purchasers may be required to purchase any securities remaining unsubscribed for after such offering.

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 subscription rights certificate. The following summaries of material provisions of the subscription rights are subject to, and qualified in their entirety by reference to, all the provisions of the subscription rights certificate applicable to the particular subscription rights that we may offer under this prospectus. We urge you to read the applicable prospectus supplements related to the particular subscription rights that we may offer under this prospectus, as well as any related free writing prospectuses, and the complete subscription rights certificates that contain the terms thereof.

The applicable prospectus supplement relating to any subscription rights we offer, if any, will, to the extent applicable, include specific terms relating to the offering, including some or all of the following:

- the price, if any, for the subscription rights;
- the exercise price payable for our common stock, preferred stock or debt securities upon the exercise of the subscription rights;
- the number of subscription rights to be issued to each stockholder;
- the number and terms of our common stock, preferred stock or debt securities which may be purchased per each subscription right;
- the extent to which the subscription rights are transferable;
- any other terms of the subscription rights, including the terms, procedures and limitations relating to the exchange and exercise of the subscription rights;
- the date on which the right to exercise the subscription rights shall commence, and the date on which the subscription rights shall expire;
- the extent to which the subscription rights may include an over-subscription privilege with respect to unsubscribed securities or an over-allotment privilege to the extent the securities are fully subscribed; and
- if applicable, the material terms of any standby underwriting or purchase arrangement which may be entered into by us in connection with the offering of subscription rights.

LEGAL OWNERSHIP OF SECURITIES

We can issue securities in registered form or in the form of one or more global securities. We describe global securities in greater detail below. We refer to those persons who have securities registered in their own names on the books that we or any applicable trustee or depositary maintain for this purpose as the "holders" of those securities. These persons are the legal holders of the securities. We refer to those persons who, indirectly through others, own beneficial interests in securities that are not registered in their own names, as "indirect holders" of those securities. As we discuss below, indirect holders are not legal holders, and investors in securities issued in book-entry form or in street name will be indirect holders.

Book-Entry Holders

We may issue securities in book-entry form only, as we will specify in the applicable prospectus supplement. This means securities may be represented by one or more global securities registered in the name of a financial institution that holds them as depositary on behalf of other financial institutions that participate in the depositary's book-entry system. These participating institutions, which are referred to as participants, in turn, hold beneficial interests in the securities on behalf of themselves or their customers.

Only the person in whose name a security is registered is recognized as the holder of that security. Global securities will be registered in the name of the depositary or its participants. Consequently, for global securities, we will recognize only the depositary as the holder of the securities, and we will make all payments on the securities to the depositary. The depositary passes along the payments it receives to its participants, which in turn pass the payments along to their customers who are the beneficial owners. The depositary and its participants do so under agreements they have made with one another or with their customers; they are not obligated to do so under the terms of the securities.

As a result, investors in a global security will not own securities directly. Instead, they will own beneficial interests in a global security, through a bank, broker or other financial institution that participates in the depositary's book-entry system or holds an interest through a participant. As long as the securities are issued in global form, investors will be indirect holders, and not legal holders, of the securities.

Street Name Holders

We may terminate a global security or issue securities that are not issued in global form. In these cases, investors may choose to hold their securities in their own names or in "street name." Securities held by an investor in street name would be registered in the name of a bank, broker or other financial institution that the investor chooses, and the investor would hold only a beneficial interest in those securities through an account he or she maintains at that institution.

For securities held in street name, we or any applicable trustee or depositary will recognize only the intermediary banks, brokers and other financial institutions in whose names the securities are registered as the holders of those securities, and we or any such trustee or depositary will make all payments on those securities to them. These institutions pass along the payments they receive to their customers who are the beneficial owners, but only because they agree to do so in their customer agreements or because they are legally required to do so. Investors who hold securities in street name will be indirect holders, not holders, of those securities.

Legal Holders

Our obligations, as well as the obligations of any applicable trustee or third party employed by us or a trustee, run only to the legal holders of the securities. We do not have obligations to investors who hold beneficial interests in global securities, in street name or by any other indirect means. This will be the case whether an investor chooses to be an indirect holder of a security or has no choice because we are issuing the securities only in global form.

For example, once we make a payment or give a notice to the holder, we have no further responsibility for the payment or notice even if that holder is required, under agreements with its participants or customers or by law, to pass it along to the indirect holders but does not do so. Similarly, we may want to obtain the approval of the holders to amend an indenture, to relieve us of the consequences of a default or of our obligation to comply with a particular provision of an indenture, or for other purposes. In such an event, we would seek approval only from the holders, and not the indirect holders, of the securities. Whether and how the legal holders contact the indirect holders is up to the legal holders.

Special Considerations for Indirect Holders

If you hold securities through a bank, broker or other financial institution, either in book-entry form because the securities are represented by one or more global securities or in street name, you should check with your own institution to find out:

- how it handles securities payments and notices;
- whether it imposes fees or charges;
- how it would handle a request for the holders' consent, if ever required;
- whether and how you can instruct it to send you securities registered in your own name so you can be a holder, if that is permitted in the future;
- how it would exercise rights under the securities if there were a default or other event triggering the need for holders to act to protect their interests; and
- if the securities are in book-entry form, how the depositary's rules and procedures will affect these matters.

Global Securities

A global security is a security that represents one or any other number of individual securities held by a depositary. Generally, all securities represented by the same global securities will have the same terms.

Each security issued in book-entry form will be represented by a global security that we issue to, deposit with and register in the name of a financial institution or its nominee that we select. The financial institution that we select for this purpose is called the depositary. Unless we specify otherwise in the applicable prospectus supplement, The Depository Trust Company, New York, New York, known as DTC, will be the depositary for all securities issued in book-entry form.

A global security may not be transferred to or registered in the name of anyone other than the depositary, its nominee or a successor depositary, unless special termination situations arise. We

describe those situations below under "— Special Situations When a Global Security Will Be Terminated." As a result of these arrangements, the depositary, or its nominee, will be the sole registered owner and legal holder of all securities represented by a global security, and investors will be permitted to own only beneficial interests in a global security. Beneficial interests must be held by means of an account with a broker, bank or other financial institution that in turn has an account with the depositary or with another institution that does. Thus, an investor whose security is represented by a global security will not be a legal holder of the security, but only an indirect holder of a beneficial interest in the global security.

If the prospectus supplement for a particular security indicates that the security will be issued as a global security, then the security will be represented by a global security at all times unless and until the global security is terminated. If termination occurs, we may issue the securities through another book-entry clearing system or decide that the securities may no longer be held through any book-entry clearing system.

Special Considerations for Global Securities

As an indirect holder, an investor's rights relating to a global security will be governed by the account rules of the investor's financial institution and of the depositary, as well as general laws relating to securities transfers.

We do not recognize an indirect holder as a holder of securities and instead deal only with the depositary that holds the global security.

If securities are issued only as global securities, an investor should be aware of the following:

- an investor cannot cause the securities to be registered in his or her name, and cannot obtain non-global certificates for his or her interest in the securities, except in the special situations we describe below;
- an investor will be an indirect holder and must look to his or her own bank or broker for payments on the securities and protection of his or her legal rights relating to the securities, as we describe above;
- an investor may not be able to sell interests in the securities to some insurance companies and to other institutions that are required by law to own their securities in non-book-entry form;
- an investor may not be able to pledge his or her interest in the global security in circumstances where certificates representing the securities must be delivered to the lender or other beneficiary of the pledge in order for the pledge to be effective;
- the depositary's policies, which may change from time to time, will govern payments, transfers, exchanges and other matters relating to an investor's interest in the global security;
- we and any applicable trustee have no responsibility for any aspect of the depositary's actions or for its records of ownership interests in the global security, nor will we or any applicable trustee supervise the depositary in any way;

- the depositary may, and we understand that DTC will, require that those who purchase and sell interests in the global security within its book-entry system use immediately available funds, and your broker or bank may require you to do so as well; and

- financial institutions that participate in the depositary's book-entry system, and through which an investor holds its interest in the global security, may also have their own policies affecting payments, notices and other matters relating to the securities.

There may be more than one financial intermediary in the chain of ownership for an investor. We do not monitor and are not responsible for the actions of any of those intermediaries.

Special Situations When a Global Security Will Be Terminated

In a few special situations described below, a global security will terminate and interests in it will be exchanged for physical certificates representing those interests. After that exchange, the choice of whether to hold securities directly or in street name will be up to the investor. Investors must consult their own banks or brokers to find out how to have their interests in securities transferred to their own names, so that they will be direct holders. We have described the rights of holders and street name investors above.

Unless we provide otherwise in the applicable prospectus supplement, the global security will terminate when the following special situations occur:

- if the depositary notifies us that it is unwilling, unable or no longer qualified to continue as depositary for that global security and we do not appoint another institution to act as depositary within 90 days;

- if we notify any applicable trustee that we wish to terminate that global security; or

- if an event of default has occurred with regard to securities represented by that global security and has not been cured or waived.

The applicable prospectus supplement may also list additional situations for terminating a global security that would apply only to the particular series of securities covered by the prospectus supplement. When a global security terminates, the depositary, and neither we nor any applicable trustee, is responsible for deciding the names of the institutions that will be the initial direct holders.

PLAN OF DISTRIBUTION

We may sell the securities from time to time pursuant to underwritten public offerings, direct sales to the public, negotiated transactions, block trades or a combination of these methods. We may sell the securities to or through underwriters or dealers, through agents, or directly to one or more purchasers. We may distribute securities from time to time in one or more transactions:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- at negotiated prices.

We may also sell equity securities covered by this registration statement in an "at the market offering" as defined in Rule 415 under the Securities Act. Such offering may be made into an existing trading market for such securities in transactions at other than a fixed price on or through the facilities of the NASDAQ Global Market or any other existing trading market on which such securities may be listed, quoted or traded at the time of sale.

Such at-the-market offerings, if any, may be conducted by underwriters acting as principal or agent.

A prospectus supplement or supplements (and any related free writing prospectus that we may authorize to be provided to you) will describe the terms of the offering of the securities, including, to the extent applicable:

- the name or names of any underwriters, dealers or agents, if any;
- the purchase price of the securities, and the proceeds, if any, we will receive from the sale;
- any over-allotment options under which underwriters may purchase additional securities from us;
- any agency fees or underwriting discounts and other items constituting agents' or underwriters' compensation;
- in a subscription rights offering, whether we have engaged dealer-managers to facilitate the offering or subscription, including their name or names and compensation;
- any public offering price;
- any discounts or concessions allowed or reallowed or paid to dealers; and
- any securities exchange or market on which the securities may be listed.

Only underwriters named in the prospectus supplement are underwriters of the securities offered by such prospectus supplement.

If underwriters are used in the sale, they will acquire the securities for their own account and may resell the securities from time to time in one or more transactions at a fixed public offering price or at

varying prices determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. We may offer the securities to the public through underwriting syndicates represented by managing underwriters or by underwriters without a syndicate. Subject to certain conditions, the underwriters will be obligated to purchase all of the securities offered by the prospectus supplement, other than securities covered by any over-allotment option. Any public offering price and any discounts or concessions allowed or reallowed or paid to dealers may change from time to time. We may use underwriters with whom we have a material relationship. We will describe in the prospectus supplement, naming the underwriter, the nature of any such relationship.

We may sell securities directly or through agents we designate from time to time. We will name any agent involved in the offering and sale of securities and we will describe any commissions we will pay the agent in the prospectus supplement. Unless the prospectus supplement states otherwise, our agent will act on a best-efforts basis for the period of its appointment.

We may authorize agents or underwriters to solicit offers by certain types of institutional investors to purchase securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. We will describe the conditions to these contracts and the commissions we must pay for solicitation of these contracts in the prospectus supplement.

We may provide agents and underwriters with indemnification against civil liabilities related to this offering, including liabilities under the Securities Act, or contribution with respect to payments that the agents or underwriters may make with respect to these liabilities. Agents and underwriters may engage in transactions with, or perform services for, us in the ordinary course of business.

All securities we offer, other than common stock, will be new issues of securities with no established trading market. Any underwriters may make a market in these securities, but will not be obligated to do so and may discontinue any market making at any time without notice. We cannot guarantee the liquidity of the trading markets for any securities.

Any underwriter may engage in overallotment, stabilizing transactions, short-covering transactions and penalty bids. Overallotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short-covering transactions involve purchases of the securities in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a stabilizing or covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time. These transactions may be effected on any exchange or over-the-counter market or otherwise.

Any underwriters who are qualified market makers on the NASDAQ Global Market may engage in passive market making transactions in the securities on the NASDAQ Global Market in accordance with Rule 103 of Regulation M, during the business day prior to the pricing of the offering, before the commencement of offers or sales of the securities. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded. Passive market making may stabilize the market price of the securities at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, the validity of the securities offered by this prospectus, and any supplement thereto, will be passed upon for us by Honigman Miller Schwartz and Cohn LLP, Kalamazoo, Michigan. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our financial statements and schedule included in our Annual Report on Form 10-K for the year ended December 31, 2016, which is incorporated by reference into this prospectus and elsewhere in the registration statement. The financial statements and schedule audited by Ernst & Young LLP have been incorporated by reference in reliance on their report given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

This prospectus is part of the registration statement on Form S-3 we filed with the SEC under the Securities Act and does not contain all the information set forth in the registration statement. Whenever a reference is made in this prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference into this prospectus for a copy of such contract, agreement or other document. We file reports, proxy statements and other information with the SEC in accordance with the Exchange Act. You may read and copy our reports, proxy statements and other information filed by us at the public reference room of the SEC located at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information about the public reference rooms. Our reports, proxy statements and other information filed with the SEC are available free of charge to the public over the Internet at the SEC's website at http://www.sec.gov.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

SEC rules allow us to "incorporate by reference" into this prospectus much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference into this prospectus is considered to be part of this prospectus. These documents may include Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements. You should read the information incorporated by reference because it is an important part of this prospectus.

This prospectus incorporates by reference the documents listed below, other than those documents or the portions of those documents deemed to be furnished and not filed in accordance with SEC rules:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed with the SEC on March 21, 2017 (including information specifically incorporated by reference therein from our Proxy Statement filed with the SEC on April 6, 2017);
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2017 and June 30, 2017, which were filed on May 10, 2017 and August 14, 2017, respectively;

- our Current Reports on Form 8-K filed with the SEC on February 7, 2017, March 10, 2017, March 13, 2017, May 24, 2017, May 30, 2017, June 28, 2017, July 25, 2017 and August 7, 2017; and

- the description of our Common Stock contained in our registration statement on Form 8-A filed on June 20, 2016, including any amendments or reports filed for the purpose of updating such description.

We also incorporate by reference into this prospectus all documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (i) after the date of the initial filing of the registration statement of which this prospectus forms a part and prior to effectiveness of the registration statement, or (ii) after the date of this prospectus but prior to the termination of the offering. These documents include periodic reports, such as Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements.

Any statement contained herein or in a document incorporated or deemed to be incorporated by reference into this document will be deemed to be modified or superseded for purposes of the document to the extent that a statement contained in this document or any other subsequently filed document that is deemed to be incorporated by reference into this document modifies or supersedes the statement.

You can obtain any of the filings incorporated by reference in this prospectus on our website at www.gemphire.com. Information contained in, or accessible through, our website is not a part of this prospectus.

We will provide without charge to each person, including any beneficial owners, to whom this prospectus is delivered, upon his or her written or oral request, a copy of any or all reports or documents referred to above which have been or may be incorporated by reference into this prospectus but not delivered with this prospectus, excluding exhibits to those reports or documents unless they are specifically incorporated by reference into those documents. You may request a copy of these documents by writing or telephoning us at the following address.

Gemphire Therapeutics Inc.
17199 N. Laurel Park Dr., Suite 401
Livonia, Michigan 48152
(734) 245-1700
Attention: Jeffrey S. Mathiesen
Chief Financial Officer

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Shares

Common Stock

PROSPECTUS SUPPLEMENT

Piper Jaffray **Raymond James**

, 2018