

NUPATHE INC.
Form S-1/A
August 02, 2010

Table of Contents

As filed with the Securities and Exchange Commission on August 2, 2010

Registration No. 333-166825

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

**Amendment No. 5
to
Form S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

NuPathe Inc.

(Exact name of registrant as specified in its charter)

Delaware

*(State or other jurisdiction of
incorporation or organization)*

2834

*(Primary Standard Industrial
Classification Code Number)*

20-2218246

*(I.R.S. Employer
Identification Number)*

**227 Washington Street, Suite 200
Conshohocken, Pennsylvania 19428
(484) 567-0130**

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

**Jane H. Hollingsworth
Chief Executive Officer
NuPathe Inc.**

**227 Washington Street, Suite 200
Conshohocken, Pennsylvania 19428**

(484) 567-0130

(Name, address, including zip code and telephone number, including area code, of agent for service)

Copies to:

**Michael N. Peterson, Esq.
James W. McKenzie, Jr., Esq.
Morgan, Lewis & Bockius LLP
1701 Market Street
Philadelphia, Pennsylvania 19103
(215) 963-5000**

**Suzanne M. Hanlon, Esq.
V.P. Administration, General
Counsel, Secretary
NuPathe Inc.
227 Washington Street, Suite 200
Conshohocken, Pennsylvania
19428
(484) 567-0130**

**David E. Redlick, Esq.
Brian A. Johnson, Esq.
Wilmer Cutler Pickering Hale and
Dorr LLP
399 Park Avenue
New York, New York 10022
(212) 230-8800**

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement.

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

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

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

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

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

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company
(Do not check if a smaller reporting company)

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

Table of Contents

The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is declared effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED AUGUST 2, 2010

PROSPECTUS

5,000,000 Shares

Common Stock

NuPathe Inc. is offering 5,000,000 shares of common stock. This is our initial public offering, and no public market currently exists for our common stock. We anticipate that the initial public offering price will be between \$14.00 and \$16.00 per share.

We have applied to have our common stock listed on The NASDAQ Global Market under the symbol PATH.

Investing in our common stock involves risks. See Risk Factors beginning on page 8.

	Per Share	Total
Initial public offering price	\$	\$
Underwriting discounts and commissions	\$	\$
Proceeds, before expenses, to us	\$	\$

We have granted the underwriters an option for 30 days from the date of this prospectus to purchase up to 750,000 additional shares of our common stock at the initial public offering price, less underwriting discounts and commissions, to cover over-allotments.

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 underwriters expect to deliver the shares of common stock on or about _____, 2010.

Leerink Swann

Lazard Capital Markets

Needham & Company, LLC

The date of this prospectus is _____, 2010.

TABLE OF CONTENTS

	Page
<u>PROSPECTUS SUMMARY</u>	1
<u>RISK FACTORS</u>	8
<u>SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS</u>	33
<u>USE OF PROCEEDS</u>	34
<u>DIVIDEND POLICY</u>	35
<u>CAPITALIZATION</u>	36
<u>DILUTION</u>	38
<u>SELECTED FINANCIAL DATA</u>	40
<u>MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS</u>	41
<u>BUSINESS</u>	60
<u>MANAGEMENT</u>	84
<u>EXECUTIVE COMPENSATION</u>	91
<u>TRANSACTIONS WITH RELATED PERSONS</u>	116
<u>PRINCIPAL STOCKHOLDERS</u>	120
<u>DESCRIPTION OF CAPITAL STOCK</u>	125
<u>SHARES ELIGIBLE FOR FUTURE SALE</u>	128
<u>UNDERWRITING</u>	130
<u>LEGAL MATTERS</u>	135
<u>EXPERTS</u>	135
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	135
<u>INDEX TO FINANCIAL STATEMENTS</u>	F-1
<u>EXHIBITS</u>	
<u>EX-23.1</u>	

You should rely only on the information contained in this prospectus and any free writing prospectus prepared by or on behalf of us or to which we have referred you. We have not authorized anyone to provide you with information that is different. We are offering to sell shares of our common stock, and seeking offers to buy shares of our common stock, only in jurisdictions where offers and sales are permitted. The information in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or any sale of our common stock.

Until _____, 2010, 25 days after the date of this prospectus, all dealers that buy, sell or trade our common stock, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to the dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to unsold allotments or subscriptions.

For investors outside the United States: Neither we nor any of the underwriters have taken any action to permit a public offering of the shares of our common stock or the possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than the United States. You are required to inform yourselves about and to observe any restrictions relating to this offering and the distribution of this prospectus.

Table of Contents

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus. This summary does not contain all of the information you should consider before investing in our common stock. Before you decide to invest in our common stock, you should read the entire prospectus carefully, including the Risk Factors section and the financial statements and related notes appearing at the end of this prospectus.

Our Company

We are a specialty pharmaceutical company focused on the development and commercialization of branded therapeutics for diseases of the central nervous system, including neurological and psychiatric disorders. Our most advanced product candidate, Zelrix, is a single-use patch applied to the arm or thigh for the treatment of migraine. Zelrix actively delivers sumatriptan through the skin in a controlled manner using our proprietary SmartRelief technology. Sumatriptan, currently available in oral, nasal and injectable formulations, is the most widely prescribed migraine medication. We designed Zelrix for patients who suffer from nausea or vomiting with migraines and for those who experience inconsistent relief or adverse events from their current treatment.

We successfully completed a pivotal Phase III clinical trial for Zelrix in July 2009 and expect to submit a New Drug Application, or NDA, to the United States Food and Drug Administration, or FDA, in the fourth quarter of 2010. Subject to FDA approval of our NDA, we plan to build our own specialty sales force in the U.S. to launch Zelrix in the first half of 2012.

We have two other proprietary product candidates in preclinical development that address large market opportunities: NP201 for the continuous symptomatic treatment of Parkinson's disease, and NP202 for the long-term treatment of schizophrenia and bipolar disorder. We expect to submit an Investigational New Drug Application, or IND, to the FDA in the first half of 2011 for NP201 and in 2012 for NP202 in order to initiate human clinical trials of these product candidates.

Our Product Candidates

Zelrix for the treatment of acute migraine

Migraine is a debilitating neurological disease that affects approximately 28 million people in the U.S. Symptoms of migraine include moderate to severe headache pain, nausea and vomiting, photophobia, or abnormal sensitivity to light, and phonophobia, or abnormal sensitivity to sound. Most migraines last between four and 24 hours. Symptoms other than headache pain contribute significantly to the disability caused by acute migraine. In particular, nausea and vomiting during a migraine can be severe and incapacitating and prevent or discourage migraine patients, or migraineurs, from taking their migraine medication.

According to IMS Health Inc., or IMS, a leading provider of pharmaceutical industry market data, over 13 million prescriptions for the treatment of acute migraine were filled in the U.S. in 2009, with more than 90% of these prescriptions for triptans. Triptan sales in the U.S. in 2009 exceeded \$2.0 billion, with approximately 123 million individual units sold. Currently, triptans constitute the most prescribed class of medication for the treatment of acute migraine, and sumatriptan is the most widely prescribed triptan.

We believe that most marketed migraine therapies have significant limitations. Zelrix is a transdermal patch designed to provide migraineurs fast onset and sustained relief through a tolerable, non-oral route of administration. We believe

Zelrix offers a better alternative to migraineurs by providing the following benefits:

Circumventing nausea and vomiting. According to a survey of over 500 respondents conducted by the National Headache Foundation in 2008, 90% of migraineurs have experienced nausea with a migraine and 59% of migraineurs have experienced vomiting with a migraine. In this survey, 48% of respondents who ever experienced nausea or vomiting with a migraine reported that the nausea or vomiting had a moderate to major impact on when or how they take migraine medications. The American Academy of Neurology guidelines recommend non-oral therapies for migraineurs who experience nausea or vomiting as significant migraine symptoms. Because Zelrix is administered transdermally, we believe

Table of Contents

that it will be attractive to migraineurs suffering from nausea or vomiting who might otherwise delay or avoid taking medication.

Increasing consistency of response. According to a 2001 article by Dr. Michel Ferrari published in *The Lancet*, a peer-reviewed medical journal, clinical trials have demonstrated that at least 40% of migraineurs fail to respond consistently to oral triptans. We believe this results from a variety of causes, including low and inconsistent absorption of oral medication because of a compromised ability to digest, or decreased gastric motility. Because Zelrix does not depend on gastrointestinal absorption, we believe that it will provide more consistent relief than oral triptans.

Minimizing triptan adverse events. According to a 2003 article by Dr. R. Michael Gallagher published in *Headache*, a peer-reviewed medical journal, 67% of migraineurs who use prescription migraine medication reported that they had delayed or avoided taking a prescription migraine medication due to concerns about adverse events. In our clinical trials, treatment with Zelrix resulted in a low incidence of triptan adverse events while effectively treating migraine.

We plan to develop marketing, sales and distribution capabilities for the commercial launch of Zelrix in the U.S., including the hiring of a specialty sales force of approximately 100 people after marketing approval. We expect to direct our marketing efforts to high potential prescribers of Zelrix, including neurologists, headache specialists and select primary care physicians. We may seek to further penetrate the U.S. market in the future by expanding our sales force or through collaborations with other pharmaceutical and biotechnology companies. We may also seek to commercialize Zelrix outside the U.S., although we currently plan to do so only with a partner.

NP201 for the continuous symptomatic treatment of Parkinson's disease

According to the Parkinson's Disease Foundation, Parkinson's disease affects about one million people in the U.S. and more than four million people worldwide. Symptoms of Parkinson's disease can appear at any age, but the average age of onset is 60. According to IMS, 2009 sales of Parkinson's disease therapies in the U.S., European Union and Japan totaled approximately \$3.6 billion.

We designed NP201 to provide continuous delivery of Parkinson's disease medication in an easy to administer and tolerable dose formulation. After administration, NP201 is designed to slowly release ropinirole, an FDA approved medication. Based on data from our preclinical studies, we believe that NP201 has the potential to provide continuous symptomatic relief for up to two months per dose and to significantly decrease the incidence of adverse events associated with current treatments. We plan to submit an IND to the FDA in the first half of 2011.

NP202 for the long-term treatment of schizophrenia and bipolar disorder

According to the National Alliance on Mental Illness, in the U.S., schizophrenia affects over two million adults and bipolar disorder affects over ten million adults. In an attempt to improve patient compliance, physicians currently administer antipsychotic drugs through depot injections, which release medication over a longer period than conventional injections or oral medications.

We designed NP202 to provide continuous delivery of an FDA approved atypical antipsychotic medication in an easy to administer and tolerable dose formulation. We believe that NP202 will provide a significant improvement over existing treatment options because we are designing and developing it to deliver up to three months of continuous medication with a single dose and be an easy to administer, pre-loaded, injectable product that can be stored at room temperature. We have developed NP202 prototype products, initiated pre-IND activities and plan to submit an IND to the FDA in 2012.

Our Proprietary Delivery Technologies

We hold exclusive worldwide rights to two proprietary drug delivery technologies: SmartRelief and LAD. Zelrix uses SmartRelief, while NP201 and NP202 both use our long-acting delivery, or LAD, technology.

Table of Contents

SmartRelief is our proprietary transdermal delivery technology based on iontophoresis, a non-invasive method of transporting a molecule through the skin by applying a mild electrical current. Unlike passive transdermal technologies, which rely on diffusion for medication delivery, SmartRelief controls the amount and rate of medication delivery. The SmartRelief technology facilitates active transdermal delivery, which is important for molecules, such as sumatriptan, that are not able to be delivered passively through the skin.

LAD is comprised of a biodegradable polymer matrix using commonly available medical polymers and an active drug. It is formed into a small implant for injection just below the skin. We designed LAD to improve the control, consistency and convenience of medication delivery.

Risks Associated with Our Business

Our business is subject to a number of risks of which you should be aware before making an investment decision. These risks are described in more detail in the Risk Factors section of this prospectus immediately following this prospectus summary. These risks include the following:

We have not received, and we may not receive, marketing approval for, or commercial revenues from, Zelrix or any other product candidate;

The commercial success of Zelrix and any other product candidate that we develop, if approved, will depend upon significant market acceptance among physicians and patients and the availability of adequate reimbursement from third party payors;

If we are unable to establish effective marketing and sales capabilities or enter into agreements with third parties to perform these functions, we will not be able to commercialize Zelrix or any other product candidate that we develop, if approved;

We have incurred significant operating losses since inception, which has raised substantial doubt regarding our ability to continue as a going concern; and

We use third parties to manufacture all of our product candidates, including Zelrix, and the machinery to produce the commercial supply of Zelrix must be designed, built and validated.

Our Corporate Information

We were incorporated under the laws of the State of Delaware in January 2005. Our principal executive offices are located at 227 Washington Street, Suite 200, Conshohocken, Pennsylvania 19428 and our telephone number is (484) 567-0130. Our website address is www.nupathe.com. The information contained on, or that can be accessed through, our website is not part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

In this prospectus, unless otherwise stated or the context otherwise indicates, references to NuPathe, we, us, our and similar references refer to NuPathe Inc. The name NuPathe® is our registered trademark. Zelrix™, SmartRelief™ and LAD™ are our trademarks. All other trademarks, trade names and service marks appearing in this prospectus are the property of their respective owners.

Table of Contents

THE OFFERING

Common stock offered by us	5,000,000 shares
Common stock to be outstanding after this offering	14,112,231 shares
Over-allotment option	We have granted the underwriters an option for 30 days from the date of this prospectus to purchase up to 750,000 additional shares of common stock to cover over-allotments.
Use of proceeds	We intend to use the net proceeds from this offering to complete the clinical development of, seek marketing approval for and, if approved, commercially launch Zelrix in the U.S., to continue preclinical and clinical development of NP201 and NP202 and for working capital and other general corporate purposes. See <u>Use of Proceeds</u> on page 34.
Proposed NASDAQ Global Market symbol	PATH
Risk factors	You should read the <u>Risk Factors</u> section of this prospectus for a discussion of factors to consider carefully before deciding to invest in shares of our common stock.

The number of shares of common stock to be outstanding after this offering is based on 392,254 actual shares of common stock outstanding as of June 30, 2010 and also includes:

7,858,934 shares of common stock issuable upon the automatic conversion of all outstanding shares of our preferred stock, including accrued dividends, upon the closing of this offering, assuming that the closing occurs on August 9, 2010; and

861,043 shares of common stock issuable upon the automatic conversion of all principal and accrued interest outstanding under secured subordinated promissory notes that we issued and sold to investors in April 2010, or the April 2010 Convertible Notes, upon the closing of this offering, assuming an initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, and that the closing occurs on August 9, 2010.

The number of shares of common stock to be outstanding after this offering excludes:

938,223 shares of common stock issuable upon the exercise of options outstanding as of June 30, 2010 at a weighted average exercise price of \$1.81 per share;

345,350 shares of common stock issuable upon the exercise of options, to be granted effective upon the effective date of the registration statement for this offering, at an exercise price equal to the initial public offering price;

140,520 shares of common stock issuable upon the exercise of warrants outstanding as of June 30, 2010 at a weighted average exercise price of \$7.45 per share; and

791,776 additional shares of common stock reserved for future issuance under our 2010 Omnibus Incentive Compensation Plan, or our 2010 Plan, which will become effective upon the effective date of the registration statement for this offering, including 105,555 shares of common stock reserved for issuance as of June 30, 2010 under our 2005 Equity Compensation Plan, or our 2005 Plan, which shares will be added to the shares reserved for future issuance under our 2010 Plan upon effectiveness of our 2010 Plan.

Unless otherwise indicated, all information in this prospectus assumes:

No exercise of the outstanding options or warrants described above;

Table of Contents

No exercise by the underwriters of their option to purchase up to 750,000 shares of common stock to cover over-allotments;

The automatic conversion of all outstanding shares of our preferred stock, including accrued dividends, into an aggregate of 7,858,934 shares of common stock upon the closing of this offering, assuming that the closing occurs on August 9, 2010;

The automatic conversion of all principal and accrued interest outstanding under the April 2010 Convertible Notes into an aggregate of 861,043 shares of common stock upon the closing of this offering, assuming an initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, and that the closing occurs on August 9, 2010;

The warrants outstanding as of June 30, 2010 to purchase an aggregate of 1,126,298 shares of preferred stock have become, in accordance with their terms, warrants to purchase 140,520 shares of common stock at an exercise price of \$7.45 per share of common stock upon the closing of this offering; and

The restatement of our amended and restated certificate of incorporation and our bylaws upon the closing of this offering.

In addition, unless otherwise indicated, all information in this prospectus gives effect to the one-for-8.0149 reverse stock split of common stock that was effected on July 20, 2010.

Table of Contents

SUMMARY FINANCIAL DATA

You should read the following summary financial data together with the Capitalization, Selected Financial Data and Management's Discussion and Analysis of Financial Condition and Results of Operations sections of this prospectus and our financial statements and the related notes appearing at the end of this prospectus. We have derived the statement of operations data for the years ended December 31, 2007, 2008 and 2009 from our audited financial statements appearing at the end of this prospectus. We have derived the statement of operations data for the three months ended March 31, 2009 and 2010 and for the period from January 7, 2005 (inception) through March 31, 2010 and the balance sheet data as of March 31, 2010 from our unaudited financial statements appearing at the end of this prospectus. Our historical results for any prior period are not necessarily indicative of results to be expected in any future period and our interim period results are not necessarily indicative of results for a full year.

See note 3(j) to our financial statements appearing at the end of this prospectus for information regarding computation of basic and diluted net loss per common share, unaudited pro forma basic and diluted net loss per common share and the unaudited pro forma weighted average basic and diluted common shares outstanding used in computing pro forma basic and diluted net loss per common share.

The unaudited pro forma balance sheet data set forth below give effect to:

The automatic conversion of all outstanding shares of our preferred stock, including accrued dividends, into an aggregate of 7,858,934 shares of common stock upon the closing of this offering, assuming that the closing occurs on August 9, 2010;

The receipt in April 2010 of gross proceeds of \$10,062,500 upon the issuance of the April 2010 Convertible Notes and the automatic conversion of all principal and accrued interest outstanding under the April 2010 Convertible Notes into an aggregate of 861,043 shares of common stock upon the closing of this offering, assuming an initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, and that the closing occurs on August 9, 2010;

The receipt in May 2010 of gross proceeds of \$5,000,000 upon entering into a secured term loan facility, or the May 2010 Loan Facility, the issuance of warrants to purchase 255,376 shares of Series B preferred stock, with an estimated fair value of \$203,255, to the lenders under such facility and the repayment in full of the \$555,208 outstanding as of March 31, 2010 under a term loan that we entered into in 2007; and

The warrants outstanding as of June 30, 2010 to purchase an aggregate of 1,126,298 shares of our preferred stock becoming, in accordance with their terms, warrants to purchase 140,520 shares of common stock at an exercise price of \$7.45 per share of common stock upon the closing of this offering and the reclassification of the warrant liability with respect to warrants outstanding as of March 31, 2010 to additional paid-in capital.

The pro forma as adjusted balance sheet data set forth below give further effect to the issuance and sale of 5,000,000 shares of common stock in this offering at an assumed initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

Table of Contents

	Year Ended December 31,			Three Months Ended		January 7,
	2007	2008	2009	March 31,	2010	2005
				(Unaudited)		(inception)
						through
						March 31,
						2010
						(Unaudited)
	(In thousands, except share and per share data)					
Statement of Operations						
Data:						
Operating expenses:						
Research and development	\$ 7,761	\$ 8,815	\$ 11,310	\$ 2,996	\$ 3,390	\$ 35,178
Acquired in-process research and development		5,500				5,500
General and administrative	1,884	3,075	3,142	796	873	10,700
Total operating expenses	(9,645)	(17,390)	(14,452)	(3,792)	(4,263)	(51,378)
Interest income (expense), net	(30)	(121)	(1,289)	(37)	(10)	(2,106)
Loss before tax benefit	(9,675)	(17,511)	(15,741)	(3,829)	(4,273)	(53,484)
Income tax benefit			151	151	320	471
Net loss	(9,675)	(17,511)	(15,590)	(3,678)	(3,953)	\$ (53,013)
Accretion of redeemable convertible preferred stock	(1,126)	(2,330)	(3,617)	(830)	(1,033)	
Net loss applicable to common stockholders	\$ (10,801)	\$ (19,841)	\$ (19,207)	\$ (4,508)	\$ (4,986)	
Basic and diluted net loss per common share	\$ (29.38)	\$ (51.98)	\$ (50.31)	\$ (11.81)	\$ (13.06)	
Weighted average basic and diluted common shares outstanding	367,691	381,681	381,789	381,789	381,842	
Unaudited pro forma net loss			\$ (15,590)		\$ (3,953)	
Unaudited pro forma basic and diluted net loss per common share			\$ (2.04)		\$ (0.45)	
Unaudited pro forma weighted average basic and			7,654,193		8,823,612	

diluted common shares
outstanding

	As of March 31, 2010		
	Actual	Pro Forma (Unaudited) (In thousands)	Pro Forma as Adjusted
Balance Sheet Data:			
Cash and cash equivalents	\$ 592	\$ 15,100	\$ 81,550
Working capital	(2,372)	12,691	79,141
Total assets	1,580	16,290	82,740
Long-term debt		5,000	5,000
Redeemable convertible preferred stock	56,572		
Total stockholders' equity (deficit)	(59,390)	8,053	74,503

Each \$1.00 increase or decrease in the assumed initial public offering price of \$15.00 per share would increase or decrease each of cash and cash equivalents, working capital, total assets and total stockholders' equity on a pro forma as adjusted basis by approximately \$4.6 million, assuming that the number of shares of common stock offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

Table of Contents

RISK FACTORS

Investing in our common stock involves a high degree of risk. Before you decide to invest in our common stock, you should consider carefully the risks described below, together with the other information contained in this prospectus, including our financial statements and the related notes appearing at the end of this prospectus. We believe the risks described below are the risks that are material to us as of the date of this prospectus. If any of the following risks actually occur, our business, financial condition, results of operations and future growth prospects would likely be materially and adversely affected. In these circumstances, the market price of our common stock could decline, and you may lose all or part of your investment.

Risks Related to Development and Commercialization of Our Product Candidates

We are heavily dependent on the success of Zelrix. If we fail to obtain marketing approval for and commercialize Zelrix, or experience delays in doing so, our business will be materially harmed.

We have invested a significant portion of our efforts and financial resources in the development of our most advanced product candidate, Zelrix. Zelrix is the only product candidate for which we have conducted clinical trials, and to date we have not marketed, distributed or sold any products. Our ability to generate revenues in the near term is substantially dependent on our ability to develop and commercialize Zelrix. In the fourth quarter of 2010, we plan to submit a new drug application, or NDA, seeking approval to commercialize Zelrix for treatment of acute migraine. We cannot commercialize Zelrix prior to obtaining FDA approval. Even though Zelrix has completed its pivotal Phase III clinical trial with positive results, Zelrix is still, nonetheless, susceptible to the risks of failure inherent at any stage of drug development, including the appearance of unexpected adverse events and the FDA's determination Zelrix is not approvable. If we do not receive FDA approval for and commercialize Zelrix, we will not be able to generate product revenues in the foreseeable future, or at all.

As a company, we have never obtained marketing approval for or commercialized a drug. It is possible that the FDA may refuse to accept our NDA for substantive review or may review our data and conclude that our application is insufficient to obtain marketing approval of Zelrix. Before we submit our NDA, we must complete two ongoing pharmacokinetic trials in healthy subjects and submit interim safety data from our two ongoing open label Phase III long-term safety trials, or our Phase III safety trials.

In addition, in July 2010, the FDA notified us that the skin sensitization data being collected during our two Phase III safety trials has the potential to be sufficient, subject to review by the FDA as part of the NDA for Zelrix, without the need to conduct a separate skin sensitization study. Depending on the outcome of the FDA's review, we may be required to conduct the separate skin sensitization study. The FDA also has requested that we provide data in our NDA regarding an *in vitro* analytical testing method for Zelrix. However, to date, for technical reasons we have not been able to develop an appropriate *in vitro* analytical testing method for Zelrix, and we are working with the FDA to develop acceptable alternatives.

Any difficulties or delays we experience in obtaining the data from our pharmacokinetic and Phase III safety trials will delay the submission of our NDA and the FDA's review of the NDA. In addition, if the FDA requires a separate skin sensitization study or if we are delayed in developing or fail to develop an *in vitro* analytical testing method for Zelrix, or are delayed in reaching or fail to reach agreement with the FDA on an alternative, marketing approval of Zelrix may be delayed.

If, following submission, our NDA is not accepted for substantive review or approved, the FDA may require that we conduct additional clinical or preclinical trials, manufacture additional validation batches or develop additional analytical test methods before it will reconsider our application. If the FDA requires additional studies or data, we would incur increased costs and delays in the marketing approval process, which may require us to expend more resources than we have available. In addition, the FDA may not consider sufficient any additional required trials that we perform and complete.

Even if we believe that the data from our clinical trials and analytical testing methods support marketing approval of Zelrix in the U.S., the FDA may not agree with our analysis and approve our NDA. Any delay in

Table of Contents

obtaining, or an inability to obtain, marketing approvals would prevent us from commercializing Zelrix, generating revenues and achieving profitability.

The commercial success of Zelrix and any other product candidates that we develop, if approved in the future, will depend upon significant market acceptance of these products among physicians, patients and third party payors.

As a company, we have never commercialized a product candidate for any indication. Even if any product candidate that we develop, including Zelrix, is approved by the appropriate regulatory authorities for marketing and sale, it may not gain acceptance among physicians, patients and third party payors. If our products for which we obtain marketing approval do not gain an adequate level of acceptance, we may not generate significant product revenues or become profitable. Market acceptance of Zelrix, and any other product candidates that we develop, by physicians, patients and third party payors will depend on a number of factors, some of which are beyond our control, including:

The efficacy, safety and other potential advantages in relation to alternative treatments;

The relative convenience and ease of administration;

The availability of adequate coverage or reimbursement by third parties, such as insurance companies and other healthcare payors, and by government healthcare programs, including Medicare and Medicaid;

The prevalence and severity of adverse events;

The cost of treatment in relation to alternative treatments, including generic products;

The extent and strength of marketing and distribution support;

The limitations or warnings contained in a product's FDA approved labeling; and

Distribution and use restrictions imposed by the FDA or to which we agree as part of a mandatory risk evaluation and mitigation strategy or voluntary risk management plan.

For example, even if the medical community accepts that Zelrix is safe and effective for its approved indications, physicians and patients may not immediately be receptive to Zelrix and may be slow to adopt it as an accepted treatment for acute migraine. In addition, even though we believe Zelrix has significant advantages, because no head-to-head trials comparing Zelrix to competing products have been conducted, it is unlikely that any labeling approved by the FDA will contain claims that Zelrix is safer or more effective than competitive products or will permit us to promote Zelrix as being superior to competing products. Further, the availability of numerous inexpensive generic forms of migraine therapy products may also limit acceptance of Zelrix among physicians, patients and third party payors. If Zelrix is approved but does not achieve an adequate level of acceptance among physicians, patients and third party payors, we may not generate meaningful revenues from Zelrix and we may not become profitable.

It will be difficult for us to profitably sell any of our product candidates that the FDA approves, including Zelrix, if reimbursement for such product candidate is limited.

Market acceptance and sales of Zelrix or any other product candidates that we develop will depend on reimbursement policies and may be affected by future healthcare reform measures. Government authorities and third party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels. A primary trend in the U.S. healthcare industry and elsewhere is cost containment.

Government authorities and these third party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. We cannot be sure that reimbursement will be available for Zelrix or any other product candidates that we develop and, if reimbursement is available, the level of reimbursement. Reimbursement may impact the demand for, or the price of, our products for which we obtain marketing approval. Numerous generic products may be available at lower prices than branded therapy products, such as Zelrix, if it is approved, which may

Table of Contents

also reduce the likelihood and level of reimbursement for our product candidates, including Zelrix. If reimbursement is not available or is available only to limited levels, we may not be able to successfully commercialize Zelrix or any other product candidates that we develop.

If we are unable to establish effective marketing and sales capabilities or enter into agreements with third parties to market and sell our product candidates after they are approved, we may be unable to generate product revenues.

We currently do not have a commercial infrastructure for the marketing, sales and distribution of pharmaceutical products. In order to commercialize our products, we must build our marketing, sales and distribution capabilities or make arrangements with third parties to perform these services. If Zelrix is approved by the FDA, we plan to build a commercial infrastructure to launch Zelrix in the U.S., including a specialty sales force of approximately 100 people. We may seek to further penetrate the U.S. market in the future by expanding our sales force or through collaborations with other pharmaceutical or biotechnology companies. We may also seek to commercialize Zelrix outside the U.S., although we currently plan to do so only with a collaborator.

The establishment and development of our own sales force and related compliance plans to market any products we may develop will be expensive and time consuming and could delay any product launch, and we may not be able to successfully develop this capability. We, or our future collaborators, will have to compete with other pharmaceutical and biotechnology companies to recruit, hire, train and retain marketing and sales personnel. In the event we are unable to develop a marketing and sales infrastructure, we would not be able to commercialize Zelrix or any other product candidates that we develop, which would limit our ability to generate product revenues.

Companies such as ours often expand their sales force and marketing capabilities for a product prior to it being approved by the FDA so that the drug can be commercialized upon approval. Although our current plan is to hire most of our sales and marketing personnel only if Zelrix is approved by the FDA, we will incur expenses prior to product launch in recruiting this sales force and developing a marketing and sales infrastructure. If the commercial launch of Zelrix is delayed as a result of FDA requirements or other reasons, we would incur these expenses prior to being able to realize any revenue from product sales. Even if we are able to effectively hire a sales force and develop a marketing and sales infrastructure, our sales force and marketing teams may not be successful in commercializing Zelrix or any other product candidates that we develop.

To the extent we rely on third parties to commercialize any products for which we obtain marketing approval, we may receive less revenues than if we commercialized these products ourselves. In addition, we would have less control over the sales efforts of any other third parties involved in our commercialization efforts. In the event we are unable to collaborate with a third party marketing and sales organization, our ability to generate product revenues may be limited either in the U.S. or internationally.

We face significant competition from other pharmaceutical and biotechnology companies. Our operating results will suffer if we fail to compete effectively.

The pharmaceutical and biotechnology industries are intensely competitive and subject to rapid and significant technological change. Our major competitors include organizations such as major multinational pharmaceutical companies, established biotechnology companies and specialty pharmaceutical and generic drug companies. Many of our competitors have greater financial and other resources than we have, such as larger research and development staff and more extensive marketing and manufacturing organizations. As a result, these companies may obtain marketing approval more rapidly than we are able to and may be more effective in selling and marketing their products. Smaller or early stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large, established companies.

Our competitors may succeed in developing, acquiring or licensing on an exclusive basis technologies and drug products that are more effective or less costly than Zelrix or any other drug candidate that we are currently developing or that we may develop, which could render our products obsolete and noncompetitive. We expect any products that we develop and commercialize to compete on the basis of, among other things,

Table of Contents

efficacy, safety, convenience of administration and delivery, price, the level of generic competition and the availability of reimbursement from government and other third party payors. We also expect to face competition in our efforts to identify appropriate collaborators or partners to help commercialize our product candidates in our target commercial markets.

The competition in the market for acute migraine medication is intense. The majority of marketed prescription products for treatment of acute migraine in the U.S. are in the triptan class in tablet, orally-disintegrating tablet, nasal spray and injectable therapies. The largest selling triptan is sumatriptan, with 2009 sales of approximately \$800 million in the U.S., including approximately \$200 million attributable to GlaxoSmithKline plc s, or GlaxoSmithKline, branded sumatriptan, Imitrex. There are at least eight other branded triptan therapies being sold by pharmaceutical and biotechnology companies, including Maxalt from Merck & Co., Inc., or Merck, and Treximet from GlaxoSmithKline. In July 2009, the FDA approved Zogenix, Inc. s Sumavel DosePro needle-free sumatriptan injection for the treatment of acute migraine and cluster headache, and in June 2010, the FDA approved King Pharmaceuticals, Inc. s Alsuma subcutaneous sumatriptan injection.

If approved, Zelrix will face competition from inexpensive generic versions of sumatriptan and generic versions of other branded products of competitors that have lost or will lose their patent exclusivity. For example, Amerge, the branded version of naratriptan, lost patent protection in July 2010. In addition, we expect other triptan patents to expire between 2012 and 2025. Many of these products are manufactured and marketed by large pharmaceutical companies and are well accepted by physicians, patients and third party payors. Because of the low cost, health insurers likely would require or encourage use of, and consumers likely would use, a generic triptan prior to trying Zelrix.

In addition to marketed migraine medications, if approved, Zelrix may face competition from migraine product candidates in various stages of clinical development by both large and small companies. These include Merck s telcagepant, an orally administered calcitonin gene related peptide antagonist, and Levadex from MAP Pharmaceuticals, Inc., an inhaled formulation of dihydroergotamine, both for acute migraine, and Allergan, Inc. s Botox for chronic migraine. Each of these has either completed or is in Phase III clinical development. Zelrix may also compete with other drug candidates that receive marketing approval before Zelrix. If we are unable to demonstrate the advantages of Zelrix over competing drugs and drug candidates, we will not be able to successfully commercialize Zelrix and our results of operations will suffer.

As with Zelrix, if approved, each of NP201 and NP202 will face competition from generic and branded products. Specifically, NP201, a biodegradable, subcutaneous, injectable polymer implant combined with ropinirole, will face competition from generic immediate release and extended release versions of ropinirole and the dopamine agonist pramipexole, as well as from two continuous delivery medications, a levodopa gel and an injectable apomorphine. NP202, a biodegradable, subcutaneous, injectable polymer implant combined with an atypical antipsychotic medication, will face competition from a variety of branded and generic versions of antipsychotic medications, in addition to several other sustained delivery depot formulations of atypical antipsychotics.

As a result of all of these factors, our competitors may succeed in obtaining patent protection or FDA approval or discovering, developing and commercializing migraine and other therapies before we do.

Any failure or delay in preclinical studies or clinical trials for our product candidates may cause us to incur additional costs or delay or prevent the commercialization of our product candidates and could severely harm our business.

Before obtaining marketing approval for the sale of our product candidates, we must conduct, at our own expense, extensive preclinical tests and then clinical trials to demonstrate the safety and efficacy of our product candidates in

humans. Clinical testing, in particular, is expensive, difficult to design and implement, can take many years to complete and is uncertain as to outcome. The outcome of preclinical studies and early clinical trials may not be predictive of the success of later clinical trials, and interim results of a clinical trial do not necessarily predict final results. Even if preclinical studies and early phase clinical trials succeed, it is necessary to conduct additional clinical trials in larger numbers of subjects taking the medication for longer periods before seeking FDA approval to market and sell a medication in the U.S. Clinical data is often

Table of Contents

susceptible to varying interpretations and analyses, and many companies that have believed their product candidates performed satisfactorily in clinical trials have nonetheless failed to obtain FDA approval for their products. A failure of one or more of our clinical trials can occur at any stage of testing.

We may experience numerous unforeseen events during, or as a result of, the clinical trial process, which could delay or prevent us from receiving marketing approval or commercializing our product candidates, including the following:

Regulators or institutional review boards may not authorize us to commence a clinical trial or conduct a clinical trial at a prospective trial site;

Our clinical trials may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or we may abandon projects that we expect to be promising;

The number of subjects required for our clinical trials may be larger than we anticipate, enrollment in our clinical trials may be slower than we anticipate, or participants may drop out of our clinical trials at a higher rate than we anticipate;

We might have to suspend or terminate our clinical trials if the participants are being exposed to unacceptable health risks;

Regulators or institutional review boards may require that we hold, suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements or our clinical protocols;

Regulators may refuse to accept or consider data from clinical trials for various reasons, including noncompliance with regulatory requirements or our clinical protocols;

The cost of our clinical trials may be greater than we anticipate;

The supply or quality of our product candidates or other materials necessary to conduct our clinical trials may be insufficient or inadequate; and

The effects of our product candidates may not be the desired effects or the desired level of effect or may include undesirable side effects or the product candidates may have other unexpected characteristics.

A number of these risks remain applicable to our pharmacokinetic and Phase III safety trials required for our NDA submission for Zelrix.

Subject enrollment, which is a significant factor in the timing of clinical trials, is affected by a variety of factors, including the following:

The size and nature of the subject population;

The proximity of subjects to clinical sites;

The eligibility criteria for the trial;

The design of the clinical trial;

Competing clinical trials; and

Clinicians and subjects' perceptions as to the potential advantages of the medication being studied in relation to other available therapies, including any new medications that may be approved for the indications we are investigating.

Furthermore, we plan to rely on clinical trial sites to ensure the proper and timely conduct of our clinical trials, and while we have agreements governing their committed activities, we have limited influence over their actual performance. Any delays or unanticipated problems during clinical testing, such as enrollment in our clinical trials being slower than we anticipate or participants dropping out of our clinical trials at a higher

Table of Contents

rate than we anticipate, could increase our costs, slow down our product development and approval process and jeopardize our ability to commence product sales and generate revenues.

Serious adverse events or other safety risks could require us to abandon development and preclude or limit approval of our product candidates.

We may voluntarily suspend or terminate our clinical trials if at any time we believe that they present an unacceptable risk to participants. In addition, regulatory agencies or institutional review boards may at any time order the temporary or permanent discontinuation of our clinical trials or of investigators in the clinical trials if they believe that the clinical trials are not being conducted in accordance with applicable regulatory requirements, or that they present an unacceptable safety risk to participants. If we elect or are forced to suspend or terminate a clinical trial of any product candidates, the commercial prospects of such product candidates will be harmed and our ability to generate product revenues from any of these product candidates, if at all, will be delayed or eliminated.

Clinical trials for our product candidates involve testing in large subject populations, which could reveal a high prevalence of adverse events. If these effects include undesirable serious adverse events or have unexpected characteristics, we may need to abandon our development of these product candidates. Alternatively, the identification of serious adverse events or other significant safety risks could result in the imposition of approval requirements, such as labeling or distribution and use restrictions that limit the available market for our product candidates.

Even if Zelrix receives FDA marketing approval, we may not be able to secure marketing exclusivity in the U.S.

Although we plan to seek three years marketing exclusivity in the U.S. if we receive FDA approval for Zelrix, we may not be entitled to such marketing exclusivity if the FDA determines that our clinical investigations were not essential to the approval of the Zelrix NDA. This three year marketing exclusivity period, if granted, would be coterminous with any patent coverage for Zelrix. We also intend to seek an additional period of six months pediatric exclusivity in the U.S., but may not be able to secure such exclusivity if the FDA does not request pediatric trials for Zelrix or we are unable to complete the trials that the FDA requests. The six month pediatric exclusivity period, if granted, would be in addition to the term of any existing regulatory exclusivity or listed patent term. If we are unable to secure marketing exclusivity and any patents that we are issued do not provide sufficient protection, our business and ability to generate revenues may be harmed significantly.

If we fail to acquire, develop and commercialize product candidates other than Zelrix, our prospects for future growth and our ability to sustain profitability may be limited.

A key element of our strategy is to develop and commercialize a portfolio of product candidates in addition to Zelrix. To do so, we plan to obtain additional product candidates or technologies primarily through acquisitions or licenses. We may not be successful in our efforts to identify and develop additional product candidates, and any product candidates we do identify may not produce commercially viable drugs that safely and effectively treat their indicated conditions. To date, our efforts have yielded two product candidates in addition to Zelrix, both of which are currently in preclinical development.

Our development programs may initially show promise in identifying potential product leads, yet fail to produce product candidates for clinical development. In addition, identifying new treatment needs and product candidates requires substantial technical, financial and human resources on our part. If we are unable to maintain or secure additional development program funding or continue to devote substantial technical and human resources to such programs, we may have to delay or abandon these programs. Any product candidate that we successfully identify may require substantial additional development efforts prior to commercial sale, including preclinical studies, extensive clinical testing and approval by the FDA and applicable foreign regulatory authorities. All product candidates are

susceptible to the risks of failure that are inherent in pharmaceutical product development.

Table of Contents

We may be unable to license or acquire suitable product candidates or technologies from third parties for a number of reasons. In particular, the licensing and acquisition of pharmaceutical products is competitive. A number of more established companies are also pursuing strategies to license or acquire products. These established companies may have a competitive advantage over us due to their size, cash resources or greater clinical development and commercialization capabilities. In addition, we expect competition in acquiring product candidates to increase, which may lead to fewer suitable acquisition opportunities for us as well as higher acquisition prices.

Other factors that may prevent us from licensing or otherwise acquiring suitable product candidates include the following:

We may be unable to license or acquire the relevant technology on terms that would allow us to make an appropriate return from such product;

Companies that perceive us to be their competitors may be unwilling to assign or license their product rights to us; or

We may be unable to identify suitable products or product candidates within our areas of expertise.

Product liability lawsuits could divert our resources, result in substantial liabilities and reduce the commercial potential of any products that we may successfully develop.

The risk that we may be sued on product liability claims is inherent in the development of pharmaceutical products. We will face an even greater risk if we commercially sell any products that we develop. If we cannot successfully defend ourselves against claims that our product candidates, or any products we may commercialize, cause injuries, we will incur substantial liabilities. Regardless of merit or eventual outcome, these lawsuits may:

Expose us to adverse publicity;

Decrease demand for any products that we successfully develop;

Cause clinical trial participants to withdraw from clinical trials or be reluctant to enroll;

Divert our management from pursuing our business strategy;

Increase warnings on our product label;

Be costly to defend; and

Force us to limit or forgo further development and commercialization of these products.

Although we maintain general liability and product liability insurance with limits, subject to deductibles, of \$2.0 million in the aggregate for general liability, \$1.0 million in the aggregate for umbrella liability coverage for payments that exceed the general liability limits and \$2.0 million in the aggregate for product liability, this insurance may not fully cover potential liabilities. The cost of any products liability litigation or other proceedings, even if resolved in our favor, could be substantial. In addition, inability to obtain or maintain sufficient insurance coverage at an acceptable cost or to otherwise protect against potential product liability claims could prevent or inhibit the development and commercial production and sale of our products, which could adversely affect our business, operating results and financial condition.

A variety of risks associated with our planned international business relationships could materially adversely affect our business.

We may enter into agreements with third parties for the development and commercialization of Zelrix and possibly other products in international markets. If we do so, we would be subject to additional risks related to entering into international business relationships, including:

Differing regulatory requirements for drug approvals in foreign countries;

Potentially reduced protection for intellectual property rights;

Table of Contents

The potential for so-called parallel importing, which is what happens when a local seller, faced with high or higher local prices, opts to import goods from a foreign market, with low or lower prices, rather than buying them locally;

Unexpected changes in tariffs, trade barriers and regulatory requirements;

Economic weakness, including inflation, or political instability in particular foreign economies and markets;

Compliance with tax, employment, immigration and labor laws for employees traveling abroad;

Foreign taxes;

Foreign currency fluctuations, which could result in increased operating expenses and reduced revenues, and other obligations incident to doing business in another country;

Workforce uncertainty in countries where labor unrest is more common than in the U.S.;

Production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and

Business interruptions resulting from geo-political actions, including war and terrorism, or natural disasters, including earthquakes, volcanoes, typhoons, floods, hurricanes and fires.

These and other risks may materially adversely affect our ability to attain or sustain profitable operations.

Risks Related to Our Financial Condition and Capital Requirements

We have incurred significant operating losses since inception and anticipate that we will incur continued losses for the foreseeable future. We may never become profitable.

As of March 31, 2010, we had an accumulated deficit of approximately \$59.4 million. We are a development stage specialty pharmaceutical company with no products approved for commercial sale and, to date, have not generated any revenues. We have funded our operations to date primarily with the proceeds of the sale of convertible preferred stock, convertible notes and borrowings under debt facilities. We expect to continue to incur substantial additional operating losses for at least the next several years as we continue to develop our product candidates and seek marketing approval and, subject to obtaining such approval, the eventual commercialization of Zelrix and our other product candidates. In addition, we will incur additional costs of operating as a public company and, if we obtain marketing approval for Zelrix, will incur significant sales, marketing and outsourced manufacturing expenses. As a result, we expect to continue to incur significant and increasing losses for the foreseeable future.

To achieve and maintain profitability, we need to generate significant revenues from future product sales. This will require us to be successful in a range of challenging activities, including:

Obtaining marketing approval for the marketing of Zelrix and possibly other product candidates;

Commercializing Zelrix and any other product candidates for which we obtain marketing approval; and

Achieving market acceptance of Zelrix and any other product candidates for which we obtain marketing approval in the medical community and with patients and third party payors.

Zelrix will require additional clinical trials and evaluation, marketing approval and investment in commercial capabilities, including manufacturing and sales and marketing efforts, before its product sales generate any revenues for us. Because of the numerous risks and uncertainties associated with drug development and commercialization, we are unable to predict the extent of any future losses. We may never successfully commercialize any products, generate significant future revenues or achieve and sustain profitability.

Table of Contents

If we fail to obtain additional financing, we may not be able to complete development of and commercialize Zelrix or any other product candidates.

Our operations have consumed substantial amounts of cash since inception. We expect to continue to spend substantial amounts to:

Complete development of and seek marketing approval for Zelrix;

Launch and commercialize Zelrix and any other product candidates for which we obtain marketing approval; and

Continue our development programs to advance our internal product pipeline, which currently consists of two preclinical product candidates.

We will need substantial additional funding and may be unable to raise capital when needed or on attractive terms, which would force us to significantly delay, scale back or discontinue the development or commercialization of Zelrix or our other product candidates.

We expect that the net proceeds from this offering and our existing cash and cash equivalents will be sufficient to fund our operations and capital requirements for at least the next 24 months. We believe that these available funds will be sufficient to complete the development of Zelrix through FDA approval and to fund the expected commercial launch of Zelrix in the U.S. in the first half of 2012. However, changing circumstances may cause us to consume capital significantly faster than we currently anticipate, and we may need to spend more money than currently expected because of circumstances beyond our control.

Our future capital requirements will depend on many factors, including the following:

The timing of our submission to the FDA and outcome of the FDA's review of the NDA for Zelrix;

The extent to which the FDA may require us to perform additional clinical trials for Zelrix;

The timing and success of this offering;

The costs of our commercialization activities for Zelrix, if it is approved by the FDA;

The cost of purchasing manufacturing and other capital equipment for our potential products;

The scope, progress, results and costs of development for our other product candidates;

The cost, timing and outcome of regulatory review of our other product candidates;

The extent to which we acquire or invest in products, businesses and technologies;

The extent to which we choose to establish collaboration, co-promotion, distribution or other similar agreements for product candidates; and

The costs of preparing, submitting and prosecuting patent applications and maintaining, enforcing and defending intellectual property claims.

To the extent that our capital resources are insufficient to meet our future operating and capital requirements, we will need to finance our cash needs through public or private equity offerings, debt financings, corporate collaboration and licensing arrangements or other financing alternatives. The covenants under the May 2010 Loan Facility and the pledge of our assets as collateral limit our ability to obtain additional debt financing. We have no committed external sources of funds. Additional equity or debt financing or corporate collaboration and licensing arrangements may not be available on acceptable terms, if at all. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we will be prevented from pursuing acquisition, licensing, development and commercialization efforts and our ability to generate revenues and achieve or sustain profitability will be substantially harmed.

If we raise additional funds by issuing equity securities, our stockholders will experience dilution. Debt financing, if available, would result in increased fixed payment obligations and may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt,

Table of Contents

making capital expenditures or declaring dividends. Any debt financing or additional equity that we raise may contain terms, such as liquidation and other preferences, that are not favorable to us or our stockholders. If we raise additional funds through collaboration and licensing arrangements with third parties, it may be necessary to relinquish valuable rights to our technologies, future revenue streams or product candidates or to grant licenses on terms that may not be favorable to us.

Our recurring operating losses have raised substantial doubt regarding our ability to continue as a going concern.

Our recurring operating losses raise substantial doubt about our ability to continue as a going concern. As a result, our independent registered public accounting firm included an explanatory paragraph in its report on our financial statements as of and for the year ended December 31, 2009 with respect to this uncertainty. We have no current source of revenues to sustain our present activities, and we do not expect to generate revenues until, and unless, the FDA or other regulatory authorities approve Zelrix or our other product candidates and we successfully commercialize any such product candidates. Accordingly, our ability to continue as a going concern will require us to obtain additional financing to fund our operations. The perception of our ability to continue as a going concern may make it more difficult for us to obtain financing for the continuation of our operations and could result in the loss of confidence by investors, suppliers and employees.

Our indebtedness may limit cash flow available to invest in the ongoing needs of our business.

Upon closing of this offering, we will have \$5.0 million principal amount of indebtedness outstanding under the May 2010 Loan Facility. We may incur additional indebtedness beyond this amount, including, subject to our satisfaction of specified conditions and approval by the lenders in their sole discretion, up to \$6.0 million under the May 2010 Loan Facility. Our indebtedness combined with our other financial obligations and contractual commitments, including amounts due under an equipment funding agreement with LTS Lohmann Therapie-Systeme AG, or LTS, could have significant adverse consequences, including:

Requiring us to dedicate a substantial portion of our cash resources to the payment of interest on, and principal of, our debt, which will reduce the amounts available to fund working capital, capital expenditures, product development efforts and other general corporate purposes;

Increasing our vulnerability to adverse changes in general economic, industry and competitive conditions and adverse changes in government regulation;

Limiting our flexibility in planning for, or reacting to, changes in our business and our industry; and

Placing us at a competitive disadvantage compared to our competitors that have less debt.

In addition, we are vulnerable to increases in the market rate of interest because amounts outstanding under the May 2010 Loan Facility bear interest at a variable rate. If the market rate of interest increases, we may have to pay additional interest on our outstanding debt, which would reduce cash available for our other business needs. Further, we are subject to fluctuations in exchange rates because amounts due under the equipment funding agreement with LTS are in Euros. If the U.S. dollar weakens against the Euro, our costs in U.S. dollars will increase, which would also reduce cash available for our other business needs.

We may need external sources of funds to repay our indebtedness as it matures. We may not have sufficient funds or may be unable to arrange for additional financing to pay the amounts due under the May 2010 Loan Facility or any other borrowings. Funds from external sources may not be available on acceptable terms, if at all. In addition, a failure to comply with the covenants under the May 2010 Loan Facility or future indebtedness could result in an event of

default. In the event of an acceleration of amounts due under our debt instruments as a result of an event of default or the occurrence of a mandatory prepayment event, we may not have sufficient funds or may be unable to arrange for additional financing to repay our indebtedness or to make any accelerated payments, and the lenders could seek to enforce security interests in the collateral securing such indebtedness. Because of the covenants under our existing debt instruments and the pledge of our assets as collateral, we have a limited ability to obtain additional debt financing.

Table of Contents

We have a limited operating history, which makes it difficult to evaluate our business and growth prospects.

We were incorporated in Delaware in January 2005. Our operations to date have been limited to organizing and staffing our company, conducting product development activities for Zelrix and performing preclinical development of our other product candidates. As a company, we have not yet demonstrated an ability to obtain marketing approval for or commercialize a product candidate. Consequently, any predictions about our future performance may not be as accurate as they could be if we had a history of successfully developing and commercializing pharmaceutical products as a company.

In addition, as a new business, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors. We will need to transition from a company with a development focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

Risks Related to Our Dependence on Third Parties

We use third parties to manufacture all of our product candidates, including Zelrix, and the machinery to produce the commercial supply of Zelrix must be designed, built and validated. This may increase the risk that we will not have sufficient quantities of our product candidates or such quantities at an acceptable cost, which could result in clinical development and commercialization of our product candidates being delayed, prevented or impaired.

We do not own or operate, and have no plans to establish, any manufacturing facilities for our product candidates. We have limited personnel with experience in drug manufacturing and we lack the resources and the capabilities to manufacture any of our product candidates on a clinical or commercial scale.

We currently outsource all manufacturing of our preclinical and clinical product candidates to third parties, including sumatriptan and key components of Zelrix, typically without any guarantee that there will be sufficient supplies to fulfill our requirements or that we may obtain such supplies on acceptable terms. Any delays in obtaining adequate supplies with respect to our preclinical and clinical product candidates may delay the development or commercialization of Zelrix or our other product candidates.

In addition, we do not currently have any agreements with third party manufacturers for the long-term commercial supply of our product candidates. We may be unable to enter agreements for commercial supply with third party manufacturers, or may be unable to do so on acceptable terms. Even if we enter into these agreements, the various manufacturers of each product candidate will likely be single source suppliers to us for a significant period of time.

In particular, LTS manufactures Zelrix using sumatriptan and components that we purchase from third parties. Although LTS has considerable experience in the manufacturer of passive transdermal drug patches, it does not have such experience in manufacturing active transdermal patches such as Zelrix. In order for LTS to produce our commercial supply of Zelrix, LTS must successfully complete the following:

Transfer technology and production capabilities from its German facility where our clinical supply has been produced to its manufacturing facility in New Jersey;

Assemble the commercial scale manufacturing equipment for Zelrix using components purchased from third party suppliers; and

Test and validate the newly-assembled machinery and production process.

The machinery that LTS will use to produce the commercial supply of Zelrix will be customized to the particular manufacturing specifications of Zelrix and does not exist currently. In June 2010, we entered into an equipment funding agreement with LTS, under which we agreed to fund the purchase by LTS of the manufacturing equipment for Zelrix. If LTS is unable to assemble and validate this equipment, or to validate the production process at its New Jersey facility, in each case in a timely manner, our ability to launch and commercialize Zelrix will be compromised significantly. If this customized equipment malfunctions at any

Table of Contents

time during the production process, the time it may take LTS to secure replacement parts, to undertake repairs and to revalidate the equipment and process could limit our ability to meet the commercial demand for Zelrix.

Reliance on third party manufacturers subjects us to risks that would not affect us if we manufactured the product candidates ourselves, including:

Reliance on the third parties for regulatory compliance and quality assurance;

The possible breach of the manufacturing agreements by the third parties because of factors beyond our control;

The possibility of termination or nonrenewal of the agreements by the third parties because of our breach of the manufacturing agreement or based on their own business priorities; and

The disruption and costs associated with changing suppliers.

Our product candidates may compete with other products and product candidates for access to manufacturing facilities. There are a limited number of manufacturers that operate under current good manufacturing practice, or cGMP, regulations and that are both capable of manufacturing for us and willing to do so. If our existing third party manufacturers, or the third parties that we engage in the future to manufacture a product for commercial sale or for our clinical trials, should cease to continue to do so for any reason, we likely would experience delays in obtaining sufficient quantities of our product candidates for us to meet commercial demand or to advance our clinical trials while we identify and qualify replacement suppliers. If for any reason we are unable to obtain adequate supplies of our product candidates or the drug substances used to manufacture them, it will be more difficult for us to develop our product candidates and compete effectively.

Our suppliers are subject to regulatory requirements, covering manufacturing, testing, quality control, manufacturing, and record keeping relating to our product candidates, and subject to ongoing inspections by the regulatory agencies. Failure by any of our suppliers to comply with applicable regulations may result in long delays and interruptions to our manufacturing capacity while we seek to secure another supplier that meets all regulatory requirements.

We may rely on third parties to conduct aspects of our clinical trials. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may be delayed in obtaining or ultimately not be able to obtain marketing approval to commercialize Zelrix or any other product candidates.

We currently rely on contract research organizations, or CROs, for some aspects of our clinical trials, including data management, statistical analysis and electronic compilation of our NDA. We may enter into additional agreements with CROs to obtain additional resources and expertise in an attempt to accelerate our progress with regard to ongoing clinical and preclinical programs. Entering into relationships with CROs involves substantial cost and requires extensive management time and focus. In addition, typically there is a transition period when a CRO commences work. As a result, delays may occur, which may materially impact our ability to meet our desired clinical development timelines and ultimately have a material adverse impact on our operating results, financial condition or future prospects.

As CROs are not our employees, we cannot control whether or not they devote sufficient time and resources to our ongoing clinical and preclinical programs in which they are engaged to perform. If the CROs we engage do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced, or if the quality or accuracy of the data they provide is compromised due to the failure to adhere to regulatory requirements, or for other reasons, our development programs may be extended, delayed or terminated, and we may

not be able to obtain marketing approval for or successfully commercialize Zelrix or any other product candidates that we develop. As a result, our financial results and the commercial prospects for Zelrix and any other product candidates that we develop would be harmed, our costs could increase and our ability to generate revenues could be delayed.

Table of Contents

Any collaboration arrangements that we may enter into in the future may not be successful, which could adversely affect our ability to develop and commercialize our product candidates.

We may seek collaboration arrangements with pharmaceutical or biotechnology companies for the development or commercialization of our product candidates in the future. We may enter into such arrangements on a selective basis depending on the merits of retaining commercialization rights for ourselves as compared to entering into selective collaboration arrangements with leading pharmaceutical or biotechnology companies for each product candidate, both in the U.S. and internationally. We will face, to the extent that we decide to enter into collaboration agreements, significant competition in seeking appropriate collaborators. Moreover, collaboration arrangements are complex and time consuming to negotiate, document and implement. We may not be successful in our efforts to establish and implement collaborations or other alternative arrangements should we so chose to enter into such arrangements. The terms of any collaborations or other arrangements that we may establish may not be favorable to us.

Any future collaborations that we enter into may not be successful. The success of our collaboration arrangements will depend heavily on the efforts and activities of our collaborators. Collaborators generally have significant discretion in determining the efforts and resources that they will apply to these collaborations.

Disagreements between parties to a collaboration arrangement regarding clinical development and commercialization matters can lead to delays in the development process or commercializing the applicable product candidate and, in some cases, termination of the collaboration arrangement. These disagreements can be difficult to resolve if neither of the parties has final decision making authority.

Collaborations with pharmaceutical or biotechnology companies and other third parties often are terminated or allowed to expire by the other party. Any such termination or expiration would adversely affect us financially and could harm our business reputation.

Risks Related to Regulatory Matters

If we are unable to obtain marketing approval for Zelrix or our other product candidates, we will not be able to commercialize our product candidates and our business will be substantially harmed.

Our product candidates and the activities associated with their development and commercialization, including their testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale and distribution, are subject to comprehensive regulation by the FDA and other regulatory agencies in the U.S. and by comparable authorities in other countries. Failure to obtain marketing approval for a product candidate will prevent us from commercializing the product candidate. As a company, we have not received approval from the FDA or demonstrated our ability to obtain marketing approval for any drugs that we have developed or are developing. Securing FDA approval requires the submission of extensive preclinical and clinical data and supporting information to the FDA for each therapeutic indication to establish the product candidate's safety and efficacy. Securing FDA approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the FDA. Our other product candidates may not be effective, may be only moderately effective or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude our obtaining marketing approval or prevent or limit commercial use.

The process of obtaining marketing approvals is expensive and often takes many years, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the product candidates involved and the nature of the disease or condition to be treated. We intend to seek approval of Zelrix and likely other product candidates pursuant to Section 505(b)(2) of the Federal Food, Drug, and Cosmetic Act, or FDCA, in the U.S., which enables an NDA applicant to rely in part on findings of safety and efficacy of a product already

approved by the FDA. We may fail to obtain marketing approval for Zelrix or any other product candidates for many reasons, including the following:

We may not be able to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that a product candidate is safe and effective for any indication;

Table of Contents

The results of clinical trials may not meet the level of statistical or clinical significance required by the FDA or comparable foreign regulatory authorities for approval;

The FDA or comparable foreign regulatory authorities may disagree with the number, design, conduct or implementation of our clinical trials;

We may not be able to demonstrate that a product candidate's clinical and other benefits outweigh its safety risks;

We may not be able to demonstrate that a product candidate provides an advantage over current standard of care or future competitive therapies in development;

The FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from preclinical studies or clinical trials;

The FDA or comparable foreign regulatory authorities may not accept data generated at our clinical trial sites;

The data collected from clinical trials of any product candidates that we develop may not be sufficient to support the submission of an NDA or other submission or to obtain marketing approval in the U.S. or elsewhere;

The FDA may determine that we have identified the wrong reference listed drug or drugs or that approval of our 505(b)(2) application for Zelrix or any other product candidate is blocked by patent or non-patent exclusivity of the reference listed drug or drugs; and

The FDA or comparable foreign regulatory authorities may identify deficiencies in the manufacturing processes or facilities of third party manufacturers with which we enter into agreements for clinical and commercial supplies.

This lengthy approval process, as well as the unpredictability of future clinical trial results, may result in our failing to obtain marketing approval to market Zelrix or any future product candidates, which would significantly harm our business, results of operations and prospects.

Even if we obtain marketing approval for Zelrix or any of our other product candidates, we will continue to face extensive regulatory requirements and our products may face future development and regulatory difficulties.

Even if marketing approval in the U.S. is obtained, the FDA may still impose significant restrictions on a product's indicated uses or marketing, including risk evaluation and mitigation strategies, or impose ongoing requirements, including with respect to:

Post-market surveillance, post-market studies or post-market clinical trials;

Labeling, packaging, storage, distribution, safety surveillance, advertising, promotion, recordkeeping and reporting of safety and other post-market information;

Monitoring and reporting adverse events and instances of the failure of a product to meet the specifications in the NDA;

Changes to the approved product, product labeling or manufacturing process;

Advertising and other promotional material; and

Disclosure of clinical trial results on publicly available databases.

In addition, manufacturers of drug products and their facilities are subject to continual review and periodic inspections by the FDA and other regulatory authorities for compliance with cGMP regulations. The distribution, sale and marketing of our products are subject to a number of additional requirements, including:

State wholesale drug distribution laws and the distribution of our product samples to physicians must comply with the requirements of the Prescription Drug Marketing Act;

Table of Contents

Sales, marketing and scientific or educational grant programs must comply with the anti-kickback and fraud and abuse provisions of the Social Security Act, the transparency provision of the Patient Protection and Affordable Care Act and an associated reconciliation bill that became law in March 2010, which we refer to collectively as the Health Care Reform Law, the False Claims Act and similar state laws;

Pricing and rebate programs must comply with the Medicaid rebate requirements of the Omnibus Budget Reconciliation Act of 1990 and the Veterans Health Care Act of 1992; and

If products are made available to authorized users of the Federal Supply Schedule of the General Services Administration, additional laws and requirements apply.

All of these activities are also potentially subject to federal and state consumer protection and unfair competition laws.

If we or any third parties involved in our commercialization efforts fail to comply with applicable regulatory requirements, a regulatory agency may:

Issue warning letters or untitled letters asserting that we are in violation of the law;

Seek an injunction or impose civil or criminal penalties or monetary fines;

Suspend or withdraw marketing approval;

Suspend any ongoing clinical trials;

Refuse to approve pending applications or supplements to applications submitted by us;

Suspend or impose restrictions on operations, including costly new manufacturing requirements;

Seize or detain products, refuse to permit the import or export of products, or require us to initiate a product recall;

Refuse to allow us to enter into supply contracts, including government contracts;

Impose civil monetary penalties; or

Pursue civil or criminal prosecutions and fines against our company or responsible officers.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response, and could generate negative publicity. The occurrence of any event or penalty described above may inhibit our ability to commercialize our product candidates and generate revenues.

Even if we obtain marketing approval for Zelrix or any of our other product candidates, adverse effects discovered after approval could limit the commercial profile of any approved product.

If we obtain marketing approval for Zelrix or any other product candidate that we develop, we or others may later discover, after use in a larger number of subjects for longer periods of time than in clinical trials, that our products could have adverse effect profiles that limit their usefulness or require their withdrawal. This discovery could have a number of potentially significant negative consequences, including:

Regulatory authorities may withdraw their approval of the product;

Regulatory authorities may require the addition of labeling statements, such as black box or other warnings or contraindications;

Regulatory authorities may require us to issue specific communications to healthcare professionals, such as Dear Doctor Letters;

Regulatory authorities may impose additional restrictions on marketing and distribution of the products;

Regulatory authorities may issue negative publicity regarding the product, including safety communications;

Table of Contents

We may be required to change the way the product is administered, conduct additional clinical studies or restrict the distribution of the product;

We could be sued and held liable for harm caused to subjects; and

Our reputation may suffer.

Any of these events could prevent us from maintaining market acceptance of the affected product candidate and could substantially increase the costs of commercializing our product candidates.

We will need FDA approval of our proposed trade name, Zelrix, and any failure or delay associated with such approval may delay the commercialization of Zelrix.

Any trade name we intend to use for our product candidates will require approval from the FDA regardless of whether we have secured a formal trademark registration from the U.S. Patent and Trademark Office, or USPTO. The FDA typically conducts a rigorous review of proposed trade names, including an evaluation of potential for confusion with other trade names and medical error. The FDA may also object to a trade name if it believes the name inappropriately implies medical claims. We intend to submit the proposed trade name Zelrix to the FDA for approval. If the FDA objects to our proposed trade name, we may be required to adopt an alternative name for our product candidate. Even after approval, the FDA may request that we adopt an alternative name for the product if adverse event reports indicate a potential for confusion with other trade names and medical error. If we are required to adopt an alternative name, the commercialization of Zelrix could be delayed or interrupted, which would limit our ability to commercialize Zelrix and generate revenues.

If the FDA does not approve the manufacturing facilities of LTS or any future third party manufacturers for commercial production, we may not be able to commercialize Zelrix or any of our other product candidates.

The facilities used by LTS and any of our future manufacturers to manufacture Zelrix must be approved by the FDA after we submit our NDA to the FDA and before approval of Zelrix. We do not control the manufacturing process of Zelrix and are completely dependent on third party manufacturers for compliance with the FDA's requirements for manufacture of Zelrix. If our manufacturers cannot successfully manufacture material components and finished products that conform to our specifications and the FDA's strict regulatory requirements, they will not be able to secure FDA approval for their manufacturing facilities. If the FDA does not approve these facilities for the commercial manufacture of Zelrix, or the facilities of any of our other product candidates, we may need to find alternative manufacturing facilities, which would result in significant delays of up to several years in obtaining FDA approval for Zelrix, or any of our other product candidates. We would incur substantial additional costs as a result of any such delays, including with respect to finding alternative manufacturing facilities.

Even if our product candidates receive marketing approval in the U.S., we may never receive marketing approval or commercialize our products outside the U.S.

In order to market Zelrix or any other product candidate outside the U.S., we must obtain separate marketing approvals and comply with numerous and varying regulatory requirements of other countries regarding safety and efficacy and governing, among other things, clinical trials and commercial sales, pricing and distribution of our product candidates. The time required to obtain approval in other countries might differ from and be longer than that required to obtain FDA approval. The marketing approval process in other countries may include all of the risks associated with obtaining FDA approval in the U.S., as well as other risks. For example, legislation analogous to Section 505(b)(2) of the FDCA in the U.S., which relates to the ability of an NDA applicant to use published data not

developed by such applicant, does not exist in other countries. In territories where data is not freely available, we may not have the ability to commercialize our products without negotiating rights from third parties to refer to their clinical data in our regulatory applications, which could require the expenditure of significant additional funds. Further, we may be unable to obtain rights to the necessary clinical data and may be required to develop our own proprietary safety and

Table of Contents

effectiveness dossiers. In addition, in many countries outside the U.S., it is required that a product receives pricing and reimbursement approval before the product can be commercialized. This can result in substantial delays in such countries.

Marketing approval in one country does not ensure marketing approval in another, but a failure or delay in obtaining marketing approval in one country may have a negative effect on the regulatory process in others. In addition, we may be subject to fines, suspension or withdrawal of marketing approvals, product recalls, seizure of products, operating restrictions and criminal prosecution if we fail to comply with applicable foreign regulatory requirements. If we fail to comply with regulatory requirements in international markets or to obtain and maintain required approvals, our target market will be reduced and our ability to realize the full market potential of our product candidates will be harmed.

Our relationships with customers and payors will be subject to applicable anti-kickback, fraud and abuse and other healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm and diminished profits and future earnings.

Healthcare providers, physicians and others play a primary role in the recommendation and prescription of any products for which we obtain marketing approval. Our future arrangements with third party payors and customers will expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we market, sell and distribute our products for which we obtain marketing approval. Restrictions under applicable federal and state healthcare laws and regulations, include the following:

The federal healthcare anti-kickback statute prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under federal healthcare programs such as Medicare and Medicaid;

The federal False Claims Act imposes criminal and civil penalties, including civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease, or conceal an obligation to pay money to the federal government;

The federal Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program and also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;

The federal false statements statute prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services;

The federal transparency requirements under the Health Care Reform Law requires manufacturers of drugs, devices, biologics, and medical supplies to report to the Department of Health and Human Services information related to physician payments and other transfers of value and physician ownership and investment interests; and

Analogous state laws and regulations, such as state anti-kickback and false claims laws and transparency laws, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by

non-governmental third party payors, including private insurers, and some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government in addition to requiring drug manufacturers to report information related to payments to physicians and other healthcare providers or marketing expenditures and drug pricing.

Table of Contents

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations could be costly. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations, including anticipated activities conducted by our sales team in the sale of Zelrix, are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, exclusion from government funded healthcare programs, such as Medicare and Medicaid, and the curtailment or restructuring of our operations. If any of the physicians or other providers or entities with whom we expect to do business are found to be not in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs.

Recently enacted and future legislation may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates and affect the prices we may obtain.

In the U.S. and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability to profitably sell our products for which we obtain marketing approval.

In the U.S., the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or Medicare Modernization Act, changed the way Medicare covers and pays for pharmaceutical products. The legislation expanded Medicare coverage for drug purchases by the elderly and introduced a new reimbursement methodology based on average sales prices for physician administered drugs. In addition, this legislation provided authority for limiting the number of drugs that will be covered in any therapeutic class. Cost reduction initiatives and other provisions of this legislation could decrease the coverage and price that we receive for any approved products. While the Medicare Modernization Act applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates. Therefore, any reduction in reimbursement that results from the Medicare Modernization Act may result in a similar reduction in payments from private payors.

More recently, in March 2010, President Obama signed into law the Health Care Reform Law, a sweeping law intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for healthcare and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms. Effective October 1, 2010, the Health Care Reform Law revises the definition of average manufacturer price for reporting purposes, which could increase the amount of Medicaid drug rebates to states once the provision is effective. Further, beginning in 2011, the new law imposes a significant annual fee on companies that manufacture or import branded prescription drug products. Substantial new provisions affecting compliance have also been enacted, which may require us to modify our business practices with healthcare practitioners. We will not know the full effects of the Health Care Reform Law until applicable federal and state agencies issue regulations or guidance under the new law. Although it is too early to determine the effect of the Health Care Reform Law, the new law appears likely to continue the pressure on pharmaceutical pricing, especially under the Medicare program, and may also increase our regulatory burdens and operating costs.

Legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. We are not sure whether additional legislative changes will be enacted, or whether the FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of our product candidates, if any, may be. In addition, increased scrutiny by the

United States Congress of the FDA's approval process may significantly delay or prevent marketing approval, as well as subject us to more stringent product labeling and post-marketing testing and other requirements.

Table of Contents

Risks Related to Intellectual Property

We may not be able to rely on our intellectual property to protect our products in the marketplace.

Our success depends, in large part, on our ability to protect our competitive position through patents, trade secrets, trademarks and other intellectual property rights. The patent positions of pharmaceutical and biotechnology companies, including our company, are uncertain and involve complex questions of law and fact for which important legal issues remain unresolved or may change. As a result of recent court decisions, the requirements for patentability of inventions in the U.S. have become more stringent, including stricter requirements that inventions be non-obvious and that patent applications provide an adequate written description of the invention. These court decisions may have the effect of narrowing the types of medical treatments that are patentable.

The patent we have licensed and patents that may be licensed by or issued to us in the future may not provide us with any competitive advantage. Our patents may be challenged by third parties in patent litigation, or in patent reexamination or opposition proceedings, which are becoming widespread in the pharmaceutical industry. In particular, it is not uncommon for potential competitors to challenge the validity of patents protecting new pharmaceutical products shortly after the products receive FDA approval. Alternatively, it is possible that third parties with products that are very similar to ours will circumvent our issued patents by purposely developing products or processes that avoid our patent claims. Our patent protection may be limited because of any of the following:

Our patents may not be broad or strong enough to prevent competition from identical or similar products;

We may be required to disclaim part of the term of some patents;

There may be prior art of which we are not aware that may affect the validity or enforceability of a patent claim;

There may be prior art of which we are aware, which we do not believe affects the validity or enforceability of a claim, but which, nonetheless ultimately may be found to affect the validity or enforceability of a claim;

If challenged, a court could determine that our issued patents are not valid or enforceable;

A court could determine that a competitor's technology or product does not infringe our patents; and

Our patents and patent applications could irretrievably lapse due to failure to pay fees or otherwise comply with regulations, or could be subject to compulsory licensing.

We do not currently own any issued U.S. or foreign patents covering any of our product candidates or technology. We have licensed one issued U.S. patent that relates to an iontophoresis drug delivery system. We and our licensors have filed and are actively pursuing applications for patents in the U.S. and in foreign jurisdictions. However, pending patent applications may not result in the issuance of patents or the scope of patent protection that we have requested, and we may not develop additional proprietary products which are patentable. Further, if we encounter delays in our development or clinical trials, the period of time during which we could market our products under patent protection would be reduced.

Because the composition of matter patent covering the active pharmaceutical ingredient of Zelrix has expired, competitors will be able to offer and sell products with the same active pharmaceutical ingredient as Zelrix so long as these competitors do not infringe any other patents that may be issued to or licensed by us, including any product, formulation and method of use patents, or violate any marketing exclusivity period that may be granted. Similarly, the

composition of matter patents covering the active ingredients of our NP201 and NP202 product candidates have expired, and competitors will be able to offer and sell products with the same active pharmaceutical ingredients as these product candidates products so long as these competitors do not infringe any other patents that we hold or may obtain in the future, including any product, formulation and method of use patents, or violate any marketing exclusivity period that may be granted.

Table of Contents

Patents covering new products or formulations incorporating a generic active pharmaceutical ingredient cannot prevent competitors from commercializing the original products and formulations. In addition, method of use patents, in particular, are more difficult to enforce than composition of matter patents because of the risk of off label sale or use of the subject compounds. Physicians are permitted to prescribe an approved product for uses that are not described in the product's labeling. Although off label prescriptions may infringe our method of use patents, if issued, the practice is common across medical specialties and such infringement is difficult to prevent or prosecute. Off label sales would limit our ability to generate revenue from the sale of our product candidates, if approved for commercial sale. In addition, if a third party were able to design around any issued product, method, formulation or other patent and create a different product not covered by our patents, if issued, we would likely be unable to prevent that third party from manufacturing and marketing its product.

We rely on third parties to protect the intellectual property we license, including trade secrets, patents, and know-how, and we may not have any input or control over the filing, prosecution or enforcement of such intellectual property rights. Any resulting patents may be invalid or unenforceable. Any enforcement of intellectual property rights, or defense of any claims asserting the invalidity thereof, may be subject to the cooperation of the third parties.

If we fail to comply with our obligations in our intellectual property licenses with third parties, we could lose license rights that are important to our business.

We are a party to a number of license agreements and may enter into additional licenses in the future. If we fail to comply with the obligations under a license agreement or otherwise breach the license agreement, the licensor may have the right to terminate the license, in which event we might not be able to market any product that is covered by any previously licensed patents.

For example, we are party to a license agreement with the University of Pennsylvania, or Penn, pursuant to which we license from Penn patent applications and other intellectual property related to the LAD technology to develop and commercialize licensed products, including NP201 and NP202, and a license agreement with SurModics Pharmaceuticals, Inc., or SurModics, pursuant to which we license from SurModics intellectual property to make, have made, use, sell, import and export NP201. We are obligated to pay milestone and royalty payments under each agreement in addition to other obligations. The triggering of milestone payments to Penn or SurModics depends on factors relating to the clinical and regulatory development and commercialization of NP201 and NP202, many of which are beyond our control. We may become obligated to make a milestone payment when we do not have the cash on hand to make such payment, which could require us to delay our clinical trials, curtail our operations, scale back our commercialization and marketing efforts or seek additional capital to meet these obligations on terms unfavorable to us.

Our failure to comply with the requirements of these license agreements, including our milestone payment obligations, could result in the termination of such agreements, in which case we might not be able to develop or market any product that is covered by the license. Even if we contest any such termination and are ultimately successful, our results of operations and stock price could suffer.

Our ability to pursue the development and commercialization of Zelrix is significantly dependent upon obtaining a license of LTS's intellectual property.

Our development and license agreement with LTS provides that if we enter into a commercial manufacturing agreement with LTS, LTS will have the exclusive right to manufacture Zelrix and LTS will grant us an exclusive, worldwide, royalty-free license under LTS's intellectual property to use, import, sell, market and distribute Zelrix. We may not enter into a commercial manufacturing agreement with LTS on commercially reasonable terms, if at all. If we do not enter into a commercial manufacturing agreement with LTS, we may not have access to LTS's proprietary

technology and know-how to manufacturer Zelrix. In this situation, we would need to develop equivalent or alternative intellectual property, which will significantly delay our commercialization of Zelrix and entail significant additional cost.

Table of Contents

We may infringe the intellectual property rights of others, which may prevent or delay our product development efforts and stop us from commercializing or increase the costs of commercializing our products.

Our commercial success depends significantly on our ability to operate without infringing the patents and other intellectual property rights of third parties. There could be issued patents of which we are not aware that our products infringe. There also could be patents that we believe we do not infringe, but that we may ultimately be found to infringe. Moreover, patent applications are in some cases maintained in secrecy until patents are issued. The publication of discoveries in the scientific or patent literature frequently occurs substantially later than the date on which the underlying discoveries were made and patent applications were filed. Because patents can take many years to issue, there may be currently pending applications of which we are unaware that may later result in issued patents that our products infringe. For example, pending applications may exist that provide support or can be amended to provide support for a claim that results in an issued patent that our product infringes.

Third parties may assert that we are employing their proprietary technology without authorization. If a court held that any third party patents cover our products, the holders of any such patents may be able to block our ability to commercialize our products unless we obtained a license under the applicable patent or patents, or until such patents expire. We may not be able to enter into licensing arrangements or make other arrangements at a reasonable cost or on reasonable terms. Any inability to secure licenses or alternative technology could result in delays in the introduction of our products or lead to prohibition of the manufacture or sale of products by us.

If we are unable to protect the confidentiality of our proprietary information and know-how, the value of our technology and products could be significantly diminished.

In addition to patents, we rely on trade secrets and proprietary know-how to protect our intellectual property. We generally require our employees, consultants, outside scientific collaborators and sponsored researchers and other advisors to enter into confidentiality agreements. These agreements provide that all confidential information developed or made known to the individual during the course of the individual's relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances. In the case of our employees, the agreements also typically provide that all inventions resulting from work performed for us, utilizing our property or relating to our business and conceived or completed during employment are our exclusive property to the extent permitted by law. Where appropriate, agreements we obtain with our consultants also typically contain similar assignment of invention provisions.

These agreements may not provide meaningful protection or adequate remedies in the event of unauthorized use or disclosure of our proprietary information. Involuntary disclosure or misappropriation by third parties of our confidential proprietary information could enable competitors to quickly duplicate or surpass our technological achievements, thus eroding our competitive position. In addition, it is possible that third parties could independently develop proprietary information and techniques substantially similar to ours or otherwise gain access to our trade secrets.

Risks Related to Employee Matters and Managing Growth

If we are not successful in attracting and retaining highly qualified personnel, including our current senior executive team, we may not be able to successfully implement our business strategy.

Our ability to compete in the highly competitive pharmaceutical and biotechnology industries depends in large part upon our ability to attract and retain highly qualified managerial, scientific and medical personnel. Competition for skilled personnel in our market is very intense because of the numerous pharmaceutical and biotechnology companies that seek similar personnel. These companies may have greater financial and other resources, offer a greater

opportunity for career advancement and have a longer history in the industry than we do. We also experience competition for the hiring of our scientific and clinical personnel from universities and research institutions.

Table of Contents

We are highly dependent on Jane H. Hollingsworth, our Chief Executive Officer, and Terri B. Sebree, our President. Despite our efforts to retain valuable employees, members of our management, scientific and medical teams may terminate their employment with us on short notice. We have formal employment agreements, which will be effective upon the closing of this offering, with Ms. Hollingsworth and Ms. Sebree and all of our other executive officers, that each include reasonable notice periods for terminations of such individual's employment. Besides these agreements, all other employees' employment is at-will, which means that any of these employees could leave our employment at any time. We maintain key person insurance for each of Ms. Hollingsworth and Ms. Sebree. The total death benefit under each policy is \$2.0 million and we are the only named beneficiary and owner of the policies. The policies have an initial term of ten years and are subject to renewal annually thereafter. We do not maintain key person insurance for any of our other employees. The loss of the services of any of our executive officers or other key employees could potentially harm our business, operating results or financial condition.

We will need to grow our organization, and we may experience difficulties in managing this growth, which could disrupt our operations.

As of June 30, 2010, we employed 22 full-time employees. We expect to expand our employee base for managerial, operational, sales, marketing, financial and other resources. Future growth would impose significant added responsibilities on members of management, including the need to identify, recruit, maintain, motivate and integrate additional employees. Also, our management may need to divert a disproportionate amount of its attention away from our day-to-day activities and devote a substantial amount of time to managing these growth activities. We may not be able to effectively manage the expansion of our operations which may result in weaknesses in our infrastructure, give rise to operational mistakes, loss of business opportunities, loss of employees and reduced productivity among remaining employees. Our expected growth could require significant capital expenditures and may divert financial resources from other projects, such as the anticipated commercialization of Zelrix or development of additional product candidates. If our management is unable to effectively manage our expected growth, our expenses may increase more than expected, our ability to generate or increase our revenues could be reduced and we may not be able to implement our business strategy. Our future financial performance and our ability to commercialize Zelrix and our other product candidates and compete effectively will depend, in part, on our ability to effectively manage any future growth.

Risks Related to this Offering and Ownership of Our Common Stock

The market price of our common stock may be highly volatile, and you may not be able to resell your shares at or above the initial public offering price.

Prior to this offering, there has not been a public market for our common stock. If an active trading market for our common stock does not develop following this offering, you may not be able to sell your shares quickly or at the market price. The initial public offering price for the shares will be determined by negotiations between us and representatives of the underwriters and may not be indicative of prices that will prevail in the subsequent trading market.

The trading price of our common stock is likely to be volatile. Our stock price could be subject to wide fluctuations in response to a variety of factors, including the following:

Any delay in submitting our NDA for Zelrix and any adverse development or perceived adverse development with respect to the FDA's review of such NDA, including the FDA's refusal to accept the NDA for substantive review or a request for additional information;

The commercial success of Zelrix, if approved by the FDA;

Results of clinical trials of our product candidates or those of our competitors;

Changes or developments in laws or regulations applicable to our product candidates;

Introduction of competitive products or technologies;

Failure to meet or exceed financial projections we provide to the public;

Table of Contents

- Actual or anticipated variations in quarterly operating results;
- Failure to meet or exceed the estimates and projections of the investment community;
- The perception of the pharmaceutical industry by the public, legislatures, regulators and the investment community;
- General economic and market conditions and overall fluctuations in U.S. equity markets;
- Developments concerning our sources of manufacturing supply;
- Disputes or other developments relating to patents or other proprietary rights;
- Additions or departures of key scientific or management personnel;
- Issuances of debt, equity or convertible securities;
- Changes in the market valuations of similar companies; and
- The other factors described in this Risk Factors section.

In addition, the stock market in general, and the market for small pharmaceutical and biotechnology companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance.

Our principal stockholders and management own a significant percentage of our stock and will be able to exert significant control over matters subject to stockholder approval.

Upon closing of this offering, our executive officers, directors and 5% stockholders and their affiliates will beneficially own approximately 52.30% of our outstanding voting stock. As a result, these stockholders will have significant influence and may be able to determine all matters requiring stockholder approval. For example, these stockholders may be able to control elections of directors, amendments of our organizational documents, or approval of any merger, sale of assets, or other major corporate transaction. This concentration of ownership could delay or prevent any acquisition of our company on terms that other stockholders may desire.

If you purchase our common stock in this offering, you will incur immediate and substantial dilution in the book value of your shares.

The initial public offering price is substantially higher than the net tangible book value per share of our common stock. Investors purchasing common stock in this offering will pay a price per share that substantially exceeds the book value of our tangible assets after subtracting our liabilities. As a result, investors purchasing common stock in this offering will incur immediate dilution of \$9.72 per share, assuming an initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus. Further, investors purchasing common stock in this offering will contribute approximately 56.0% of the total amount invested by stockholders since our inception, but will own only approximately 35.4% of the shares of our common stock outstanding.

This dilution is due to the substantially lower price paid by our investors who purchased shares prior to this offering as compared to the price offered to the public in this offering, and the exercise of stock options granted to our employees. In addition, as of June 30, 2010, options to purchase 938,223 shares of our common stock at a weighted average exercise price of \$1.81 per share and warrants exercisable for up to 1,126,298 shares of our preferred stock at an exercise price of \$0.93 per share were outstanding. Moreover, as of the effective date of the registration statement for this offering, options to purchase an additional 345,350 shares of our common stock at an exercise price equal to the initial public offering price of \$15.00 per share will be outstanding. The exercise of any of these options or warrants would result in additional dilution. As a result of the dilution to investors purchasing shares in this offering, investors may receive significantly less than the purchase price paid in this offering, if anything, in the event of a liquidation or sale of our company.

Table of Contents

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

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

Substantially all of our existing stockholders are subject to lock-up agreements with the underwriters of this offering that restrict the stockholders' ability to transfer shares of our common stock for at least 180 days from the date of this prospectus, subject to certain exceptions. The lock-up agreements limit the number of shares of common stock that may be sold immediately following the public offering. Subject to certain limitations, 9,110,653 shares will become eligible for sale upon expiration of the lock-up period. In addition, shares issued or issuable upon exercise of options and warrants vested as of the expiration of the lock-up period will be eligible for sale at that time. Sales of stock by these stockholders could have a material adverse effect on the market price of our common stock.

Certain holders of shares of our common stock are entitled to rights with respect to the registration of their shares under the Securities Act of 1933, as amended, or the Securities Act, subject to the 180-day lock-up arrangement described above. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act, except for shares held by our affiliates as defined in Rule 144 under the Securities Act. Any sales of securities by these stockholders could have a material adverse effect on the trading price of our common stock.

Our management will have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Our management will have broad discretion in the application of the net proceeds from this offering and our stockholders will not have the opportunity as part of their investment decision to assess whether the net proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. The failure by our management to apply these funds effectively could harm our business. Pending their use, we may invest the net proceeds from this offering in short-term, investment-grade, interest-bearing instruments and U.S. government securities. These investments may not yield a favorable return to our stockholders.

Our ability to use our net operating loss carryforwards and certain other tax attributes may be limited.

Under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, if a corporation undergoes an ownership change, generally defined as a greater than 50% change by value in its equity ownership over a three year period, the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes, such as research tax credits, to offset its post-change income may be limited. We believe that, with our initial public offering, our most recent private placement and other transactions that have occurred over the past three years, we may have triggered an ownership change limitation. We may also experience ownership changes in the future as a result of subsequent shifts in our stock ownership. As a result, if we generate taxable income, our ability to use our pre-change net operating loss carryforwards to offset U.S. federal taxable income may be subject to limitations, which could result in increased future tax liability to us.

Because we do not intend to pay dividends on our common stock, your returns will be limited to any increase in the value of our stock.

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings to support our operations and finance the growth and development of our business and do not anticipate declaring or paying any cash dividends on our common stock for the foreseeable future. Any return to stockholders will therefore be limited to the appreciation of their stock.

Table of Contents

Some provisions of our charter documents and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our stockholders, and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our restated certificate of incorporation and our bylaws that will become effective following the closing of this offering, as well as provisions of the Delaware General Corporation Law, or DGCL, could make it more difficult for a third party to acquire us or increase the cost of acquiring us, even if doing so would benefit our stockholders, including transactions in which stockholders might otherwise receive a premium for their shares. These provisions include:

Authorizing the issuance of blank check preferred stock, the terms of which may be established and shares of which may be issued without stockholder approval;

Prohibiting stockholder action by written consent, thereby requiring all stockholder actions to be taken at a meeting of our stockholders;

Eliminating the ability of stockholders to call a special meeting of stockholders; and

Establishing advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted upon at stockholder meetings.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management. In addition, we are subject to Section 203 of the DGCL, which generally prohibits a Delaware corporation from engaging in any of a broad range of business combinations with an interested stockholder for a period of three years following the date on which the stockholder became an interested stockholder, unless such transactions are approved by our board of directors. This provision could have the effect of delaying or preventing a change of control, whether or not it is desired by or beneficial to our stockholders.

Table of Contents

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, contained in this prospectus, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans and objectives of management, are forward-looking statements. The words may, will, could, would, should, expect, intend, anticipate, believe, estimate, predict, project, potential, continue, ongoing and similar expressions are used to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

The forward-looking statements in this prospectus include, among other things, statements about:

Our plans to develop and commercialize Zelrix and our other product candidates;

The timing of, and our ability to obtain, marketing approval of Zelrix and our other product candidates;

The timing of our anticipated commercial launch of Zelrix and our other product candidates;

Our ongoing and planned preclinical studies and clinical trials;

The rate and degree of market acceptance of Zelrix and any other future products;

The size and growth of the potential markets for Zelrix and our other product candidates and our ability to serve those markets;

Our commercialization and marketing capabilities;

Our ability to obtain and maintain intellectual property protection;

Regulatory developments in the U.S. and foreign countries;

The performance of third party manufacturers;

Our ability to acquire or license suitable product candidates or technologies from third parties;

The accuracy of our estimates regarding expenses and capital requirements; and

The loss of key scientific or management personnel.

We may not actually achieve the plans, intentions or expectations described in our forward-looking statements and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations described in the forward-looking statements we make. We have included important factors in the cautionary statements included in this prospectus, particularly in the Risk Factors section, that we believe could cause actual results or events to differ materially from those expressed or implied by our forward-looking statements. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified timeframe, or at all.

You should read this prospectus and the documents that we reference in this prospectus and have filed as exhibits to the registration statement of which this prospectus is a part completely and with the understanding that our actual future results may be materially different from what we expect. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or any sale of our common stock. We do not assume any obligation to update any forward-looking statements.

Table of Contents

USE OF PROCEEDS

We estimate that the net proceeds from our issuance and sale of 5,000,000 shares of common stock in this offering will be approximately \$66.5 million, assuming an initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriters exercise their over-allotment option in full, we estimate that our net proceeds from this offering will be approximately \$76.9 million.

Each \$1.00 increase or decrease in the assumed initial public offering price of \$15.00 per share would increase or decrease the net proceeds to us from this offering by approximately \$4.6 million, assuming that the number of shares of common stock offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

We anticipate using the net proceeds from this offering as follows:

Approximately \$36.0 million to complete the clinical development of, seek marketing approval for, initiate the commercial manufacture of and, if approved, commercially launch Zelrix in the U.S.;

Approximately \$5.0 million to continue preclinical and clinical development of NP201 and NP202; and

The balance for working capital and other general corporate purposes, which may include the acquisition or licensing of other products or technologies or the acquisition of other businesses in the biotechnology or specialty pharmaceuticals industry.

This anticipated use of net proceeds from this offering represents our intentions based upon our current plans and business conditions. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including: the timing of our NDA submission to the FDA for Zelrix; the extent to which the FDA may require us to perform additional clinical trials for Zelrix; the costs of our commercialization activities for Zelrix, if it is approved by the FDA; the cost, timing and outcome of the development of our other product candidates; the extent to which we acquire or invest in products, businesses and technologies; the extent to which we establish collaboration or other similar agreements; the cost of preparing and prosecuting patent applications and enforcing and defending intellectual property claims; and any unforeseen or underestimated cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering. In addition, our anticipated use of proceeds does not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments that we may make. We have no current understandings, agreements or commitments for any material acquisitions or licenses of any products, businesses or technologies.

Following this offering, we believe that our available funds will be sufficient to complete the development of Zelrix through FDA approval and to fund the expected commercial launch of Zelrix in the U.S. in the first half of 2012. It is possible that we will not achieve the progress that we expect with respect to Zelrix because the actual costs and timing of development and marketing approval are difficult to predict and are subject to substantial risks and delays. We have no committed external sources of funds. To the extent that the net proceeds from this offering and our other capital resources are insufficient to complete clinical development of, obtain marketing approval for and, if approved, commercially launch Zelrix, we will need to finance our cash needs through public or private equity offerings, debt financings, corporate collaboration and licensing arrangements or other financing alternatives.

Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation investments, including short-term, investment-grade, interest-bearing instruments and U.S. government securities.

Table of Contents

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings to support our operations and finance the growth and development of our business. We do not intend to pay cash dividends on our common stock for the foreseeable future. In addition, the May 2010 Loan Facility restricts us from paying dividends on our capital stock. The terms of the May 2010 Loan Facility are described in more detail under Management's Discussion and Analysis of Financial Condition and Results of Operations Liquidity and Capital Resources Debt Facilities.

Table of Contents

CAPITALIZATION

The following table sets forth our cash and cash equivalents and our capitalization as of March 31, 2010:

On an actual basis;

On a pro forma basis to give effect to:

the automatic conversion of all outstanding shares of our preferred stock, including accrued dividends, into an aggregate of 7,858,934 shares of common stock upon the closing of this offering, assuming that the closing occurs on August 9, 2010;

the receipt in April 2010 of gross proceeds of \$10,062,500 upon the issuance of the April 2010 Convertible Notes and the automatic conversion of all principal and accrued interest outstanding under the April 2010 Convertible Notes into an aggregate of 861,043 shares of common stock upon the closing this offering, assuming an initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, and that the closing occurs on August 9, 2010;

the receipt in May 2010 of gross proceeds of \$5,000,000 upon entering into the May 2010 Loan Facility, the issuance of warrants to purchase 255,376 shares of Series B preferred stock, with an estimated fair value of \$203,255, to the lenders under such facility and the repayment in full of the \$555,208 outstanding as of March 31, 2010 under a term loan that we entered into in 2007; and

the warrants outstanding as of June 30, 2010 to purchase an aggregate of 1,126,298 shares of our preferred stock becoming, in accordance with their terms, warrants to purchase 140,520 shares of common stock at an exercise price of \$7.45 per share of common stock upon the closing of this offering and the reclassification of the warrant liability with respect to warrants outstanding as of March 31, 2010 to additional paid-in capital; and

On a pro forma as adjusted basis to give further effect to the issuance and sale of 5,000,000 shares of common stock in this offering at an assumed initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The pro forma as adjusted information set forth below is illustrative only and our capitalization following the closing of this offering will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing. You should read this table together with the Management's Discussion and Analysis of Financial Condition and Results of Operations section of this prospectus and our financial statements and the related notes appearing at the end of this prospectus.

Table of Contents

	As of March 31, 2010		
	Actual	Pro Forma (Unaudited)	Pro Forma as Adjusted
	(In thousands, except share data)		
Cash and cash equivalents	\$ 592	\$ 15,100	\$ 81,550
Debt outstanding	\$ 564	\$ 5,009	\$ 5,009
Warrant liability	606		
Redeemable convertible preferred stock, \$0.001 par value; 71,745,055 shares authorized and 53,096,340 shares issued and outstanding, actual; none, pro forma and pro forma as adjusted	56,572		
Stockholders' equity (deficit):			
Common stock, \$0.001 par value; 28,254,945 shares authorized and 392,254 shares issued and outstanding, actual; 28,254,945 shares authorized and 9,112,231 shares issued and outstanding, pro forma; 90,000,000 shares authorized and 14,112,231 shares issued and outstanding, pro forma as adjusted		9	14
Additional paid-in capital		67,435	133,880
Deficit accumulated during the development stage	(59,390)	(59,391)	(59,391)
Total stockholders' equity (deficit)	(59,390)	8,053	74,503
Total capitalization	\$ (1,648)	\$ 13,062	\$ 79,512

Each \$1.00 increase or decrease in the assumed initial public offering price of \$15.00 per share would increase or decrease each of cash and cash equivalents, additional paid-in capital, total stockholders' equity and total capitalization on a pro forma as adjusted basis by approximately \$4.6 million, assuming that the number of shares of common stock offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The table above does not include:

938,223 shares of common stock issuable upon the exercise of options outstanding as of June 30, 2010 at a weighted average exercise price of \$1.81 per share;

345,350 shares of common stock issuable upon the exercise of options, to be granted effective upon the effective date of the registration statement for this offering, at an exercise price equal to the initial public offering price;

140,520 shares of common stock issuable upon the exercise of warrants outstanding as of June 30, 2010 at a weighted average exercise price of \$7.45 per share; and

791,776 additional shares of common stock reserved for future issuance under our 2010 Plan, which will become effective upon the effective date of the registration statement for this offering, including

105,555 shares of common stock reserved for issuance under our 2005 Plan, which shares will be added to the shares reserved for future issuance under our 2010 Plan upon effectiveness of our 2010 Plan.

Table of Contents**DILUTION**

If you invest in our common stock in this offering, your ownership interest will be diluted immediately to the extent of the difference between the public offering price per share of common stock and the pro forma net tangible book value per share of common stock after this offering.

Our historical net tangible book value of common stock as of March 31, 2010 was \$(2.8) million, or \$(7.19) per share of common stock. Historical net tangible book value per share represents the amount of our total tangible assets less total liabilities, divided by the total number of shares of common stock outstanding.

After giving effect, upon the closing of this offering, to the automatic conversion of all outstanding shares of our preferred stock, including accrued dividends, into an aggregate of 7,858,934 shares of common stock and the automatic conversion of all principal and accrued interest outstanding under the April 2010 Convertible Notes into an aggregate of 861,043 shares of common stock, assuming an initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, and that the closing occurs on August 9, 2010, our pro forma net tangible book value as of March 31, 2010 would have been \$8.1 million, or \$0.88 per share of common stock.

After giving effect to our issuance and sale of 5,000,000 shares of common stock in this offering at an assumed initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of March 31, 2010 would have been \$74.5 million, or \$5.28 per share of common stock. This represents an immediate increase in pro forma net tangible book value of \$4.40 per share to our existing stockholders and an immediate dilution of \$9.72 in pro forma net tangible book value per share to new investors purchasing shares of common stock in this offering.

Dilution per share to new investors purchasing shares of common stock in this offering is determined by subtracting pro forma as adjusted net tangible book value per share after this offering from the initial public offering price per share paid by new investors. The following table illustrates this dilution on a per share basis:

Assumed initial public offering price per share of common stock		\$ 15.00
Historical net tangible book value per share as of March 31, 2010	\$ (7.19)	
Increase in net tangible book value per share attributable to the conversion of outstanding preferred stock and April 2010 Convertible Notes	8.07	
Pro forma net tangible book value per share as of March 31, 2010	0.88	
Increase in net tangible book value per share attributable to new investors	4.40	
Pro forma as adjusted net tangible book value after this offering		5.28
Dilution per share to new investors		\$ 9.72

Each \$1.00 increase or decrease in the assumed initial public offering price of \$15.00 per share would increase or decrease our pro forma as adjusted net tangible book value by approximately \$4.6 million, our pro forma as adjusted net tangible book value per share by \$0.33 and dilution per share to new investors purchasing shares of common stock

in this offering by \$0.67, assuming that the number of shares of common stock offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters exercise their over-allotment option in full, the pro forma as adjusted net tangible book value per share after giving effect to this offering would be \$5.71 per share and the dilution in pro forma as adjusted net tangible book value per share to new investors would be \$9.29 per share.

Table of Contents

The following table summarizes, on a pro forma basis as described above as of March 31, 2010, the differences between the number of shares of common stock purchased from us, the total effective cash consideration paid and the average price per share paid by our existing stockholders and by new investors purchasing shares of common stock in this offering at an assumed initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, before deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us:

	Shares Purchased		Total Consideration		Average
	Number	Percent	Amount	Percent	Price per Share
Existing stockholders	9,112,231	64.6%	\$ 58,862,589	44.0%	\$ 6.46
New investors	5,000,000	35.4	75,000,000	56.0	15.00
Total	14,112,231	100.0%	\$ 133,862,589	100.0%	

Each \$1.00 increase or decrease in the assumed initial public offering price of \$15.00 per share would increase or decrease the total consideration paid by new investors by \$4.6 million and increase or decrease the percentage of total consideration paid by new investors purchasing shares of common stock in this offering by approximately 1.6%, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same.

If the underwriters exercise their over-allotment option in full, our existing stockholders would own 61.3% and new investors would own 38.7% of the total number of shares of common stock outstanding after this offering.

The tables and calculations set forth above are based on the number of shares of common stock outstanding after the closing of this offering and assumes no exercise of any outstanding options or warrants. To the extent that options or warrants are exercised, there will be further dilution to new investors.

The above information excludes:

938,223 shares of common stock issuable upon the exercise of options outstanding as of June 30, 2010 at a weighted average exercise price of \$1.81 per share;

345,350 shares of common stock issuable upon the exercise of options, to be granted effective upon the effective date of the registration statement for this offering, at an exercise price equal to the initial public offering price;

140,520 shares of common stock issuable upon the exercise of warrants outstanding as of June 30, 2010 at a weighted average exercise price of \$7.45 per share; and

791,776 additional shares of common stock reserved for future issuance under our 2010 Plan, which will become effective upon the effective date of the registration statement for this offering, including 105,555 shares of common stock reserved for issuance under our 2005 Plan, which shares will be added to the shares reserved for future issuance under our 2010 Plan upon effectiveness of our 2010 Plan.

Table of Contents**SELECTED FINANCIAL DATA**

You should read the following selected financial data together with the Capitalization and Management's Discussion and Analysis of Financial Condition and Results of Operations sections of this prospectus and our financial statements and the related notes appearing at the end of this prospectus. We have derived the statement of operations data for the years ended December 31, 2007, 2008 and 2009 and the balance sheet data as of December 31, 2008 and 2009 from our audited financial statements appearing at the end of this prospectus. We have derived the statement of operations data for the period from January 7, 2005 (inception) through December 31, 2005 and year ended December 31, 2006 and the balance sheet data as of December 2005, 2006 and 2007 from our audited financial statements not included in this prospectus. We have derived the statement of operations data for the three months ended March 31, 2009 and 2010 and the balance sheet data as of March 31, 2010 from our unaudited financial statements appearing at the end of this prospectus. Our historical results for any prior period are not necessarily indicative of results to be expected in any future period and our interim period results are not necessarily indicative of results for a full year.

See note 3(j) to our financial statements appearing at the end of this prospectus for information regarding computation of basic and diluted net loss per common share, unaudited pro forma basic and diluted net loss per common share and the unaudited pro forma weighted average basic and diluted common shares outstanding used in computing pro forma basic and diluted net loss per common share.

	January 7, 2005 (inception) to December 31, 2005	2006	Year Ended December 31,			Three Months Ended March 31,	
			2007	2008	2009	2009	2010
						(Unaudited)	

(In thousands, except share and per share data)

Statement of Operations Data:

Operating expenses:

Research and development	\$ 692	\$ 3,209	\$ 7,761	\$ 8,815	\$ 11,310	\$ 2,996	\$ 3,390
Acquired in-process research and development				5,500			
General and administrative	364	1,363	1,884	3,075	3,142	796	873
Total operating expenses	(1,056)	(4,572)	(9,645)	(17,390)	(14,452)	(3,792)	(4,263)
Interest income (expense), net	(12)	(644)	(30)	(121)	(1,289)	(37)	(10)
Loss before tax benefit	(1,068)	(5,216)	(9,675)	(17,511)	(15,741)	(3,829)	(4,273)

Edgar Filing: NUPATHE INC. - Form S-1/A

Income tax benefit					151	151	320
Net loss	(1,068)	(5,216)	(9,675)	(17,511)	(15,590)	(3,678)	(3,953)
Accretion of redeemable convertible preferred stock		(341)	(1,126)	(2,330)	(3,617)	(830)	(1,033)
Net loss applicable to common stockholders	\$ (1,068)	\$ (5,557)	\$ (10,801)	\$ (19,841)	\$ (19,207)	\$ (4,508)	\$ (4,986)
Basic and diluted net loss per common share	\$ (3.50)	\$ (16.25)	\$ (29.38)	\$ (51.98)	\$ (50.31)	\$ (11.81)	\$ (13.06)
Weighted average basic and diluted common shares outstanding	305,100	341,979	367,691	381,681	381,789	381,789	381,842
Unaudited pro forma net loss					\$ (15,590)		\$ (3,953)
Unaudited pro forma basic and diluted net loss per common share					\$ (2.04)		\$ (0.45)
Unaudited pro forma weighted average basic and diluted common shares outstanding					7,654,193		8,823,612

As of December 31,

As of
March 31,
2010
(Unaudited)

2005 2006 2007 2008 2009

(In thousands)

Balance Sheet Data:

Cash and cash equivalents	\$ 1,003	\$ 5,211	\$ 3,830	\$ 8,368	\$ 3,927	\$ 592
Working capital	652	4,347	1,304	6,285	1,527	(2,372)
Total assets	1,109	5,400	4,462	9,776	5,009	1,580
Long-term debt	1,600		1,628	782		
Redeemable convertible preferred stock		10,164	16,270	41,809	55,538	56,572
Total stockholders deficit	(851)	(5,716)	(16,458)	(36,141)	(54,474)	(59,390)

Table of Contents

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with our financial statements and related notes appearing at the end of prospectus. In addition to historical information, some of the information contained in this discussion and analysis or set forth elsewhere in this prospectus, including information with respect to our plans and strategy for our business and related financing, contains forward-looking statements that involve risks, uncertainties and assumptions. Our actual results may differ materially from those anticipated or implied in these forward-looking statements as a result of important factors described in the cautionary statements included in this prospectus, particularly in the Risk Factors section.

Overview

We are a specialty pharmaceutical company focused on the development and commercialization of branded therapeutics for diseases of the central nervous system, including neurological and psychiatric disorders. Our most advanced product candidate, Zelrix, is an active, single-use transdermal sumatriptan patch that we are developing for the treatment of acute migraine. Zelrix uses our proprietary SmartRelief technology. We successfully completed a pivotal Phase III clinical trial for Zelrix in July 2009 and expect to submit an NDA to the FDA in the fourth quarter of 2010. Before we submit our NDA, we must complete two ongoing pharmacokinetic trials in healthy subjects and obtain interim data from two Phase III safety trials. Subject to the approval of our NDA, we plan to build our own specialty sales force in the U.S. to launch Zelrix. We have two other proprietary product candidates in preclinical development that address large market opportunities, NP201 for the continuous symptomatic treatment of Parkinson's disease and NP202 for the long-term treatment of schizophrenia and bipolar disorder.

We were incorporated in the State of Delaware in January 2005 and are a development stage company. Since our inception, we have invested a significant portion of our efforts and financial resources in the development of Zelrix. Zelrix is the only product candidate for which we have conducted clinical trials, and to date we have not marketed, distributed or sold any products. As a result, we have generated no revenue and have never been profitable. Our net loss was \$4.0 million in the three months ended March 31, 2010, \$15.6 million for the year ended December 31, 2009 and \$17.5 million for the year ended December 31, 2008. As of March 31, 2010, we had an accumulated deficit of \$59.4 million.

We expect to continue to incur substantial additional operating losses for at least the next several years as we continue to develop our product candidates and seek marketing approval and, subject to obtaining such approval, the eventual commercialization of Zelrix and our other products candidates. If we obtain marketing approval for Zelrix, we will incur significant sales, marketing and outsourced manufacturing expenses. In addition, we expect to incur additional expenses to add operational, financial and information systems and personnel, including personnel to support our planned product commercialization efforts. We also expect to incur significant costs to comply with corporate governance, internal controls and similar requirements applicable to us as a public company following the closing of this offering. Our results may vary depending on many factors, including the progress and results of our preclinical studies and clinical trials, our ability to obtain marketing approval of Zelrix and our other product candidates and, if approved, our ability to commercialize these products and achieve market acceptance of these products among physicians, patients and third party payors.

We have funded our operations to date primarily with the proceeds of the sale of convertible preferred stock, convertible notes and borrowings under debt facilities. From inception through March 31, 2010, we have received net proceeds of \$48.0 million from the sale of convertible preferred stock and convertible notes. As of March 31, 2010,

we had \$0.6 million of debt outstanding under a term loan that we entered into in 2007.

In April 2010, we received gross proceeds of \$10.1 million from the sale of the April 2010 Convertible Notes. Further, in May 2010, we entered into the May 2010 Loan Facility under which \$5.0 million was advanced on the closing date. We used a portion of the proceeds that we received on the closing date of the

Table of Contents

May 2010 Loan Facility to repay all outstanding amounts under the term loan that we entered into in 2007. The April 2010 Convertible Notes and the May 2010 Loan Facility are described in more detail under Liquidity and Capital Resources.

Our recurring losses and negative cash flows from operations raise substantial doubt about our ability to continue as a going concern. As a result, our independent registered public accounting firm included an explanatory paragraph regarding this uncertainty in its report on our financial statements as of and for the year ended December 31, 2009. We have no current source of revenues to sustain our present activities, and we do not expect to generate revenues until, and unless, the FDA or other regulatory agencies approve Zelrix or any other of our product candidates and we successfully commercialize any such product candidates. Accordingly, our ability to continue as a going concern will require us to obtain additional financing to fund our operations.

Financial Overview

Research and Development Expenses

Our research and development expenses consist of expenses incurred in developing, testing and seeking marketing approval of our product candidates, including:

Expenses associated with regulatory submissions, preclinical development, clinical trials and manufacturing;

Personnel related expenses, such as salaries, benefits, travel and other related expenses, including stock-based compensation;

Payments made to third party investigators who perform research and development on our behalf;

Payments to third party contract research organizations, contractor laboratories and independent contractors;

Expenses incurred to obtain technology licenses if the technology licensed has not reached technological feasibility and has no alternative future use; and

Facility, maintenance and other related expenses.

We expense all research and development costs as incurred. Preclinical development expenses and clinical trial expenses for our product candidates are a significant component of our current research and development expenses. Product candidates in later stage clinical development, such as Zelrix, generally have higher research and development expenses than those in earlier stages of development, primarily due to the increased size and duration of the clinical trials. We track and record information regarding external research and development expenses for each study or trial that we conduct. From time to time, we use third party contract research organizations, contractor laboratories and independent contractors in preclinical studies. We recognize the expenses associated with third parties performing these services for us in our preclinical studies based on the percentage of each study completed at the end of each reporting period. We coordinate clinical trials through a number of contracted investigational sites and recognize the associated expense based on a number of factors, including actual and estimated subject enrollment and visits, direct pass-through costs and other clinical site fees.

From our inception in January 2005 through March 31, 2010, we incurred research and development expenses of \$35.2 million, of which \$24.9 million related to the development of Zelrix. We incurred research and development expenses associated with the development of Zelrix of \$2.5 million in the three months ended March 31, 2010, \$8.2 million in 2009 and \$5.6 million in 2008. Additionally, in 2008 we incurred \$5.5 million of acquired in-process

research and development expenses in connection with our acquisition of a patent application utilized in Zelrix. In addition, pursuant to this transaction, we obtained a perpetual, worldwide, exclusive, royalty-free license, with the right to grant sublicenses, including issued U.S. Patent No. 6,745,071, as described in more detail under Business Intellectual Property and Exclusivity. Salaries and related expenses included in research and development expenses were \$0.7 million in the three months

Table of Contents

ended March 31, 2010, \$2.4 million in 2009 and \$6.7 million since our inception. We do not allocate salaries and related expenses to individual projects, trials or studies or to specific product candidates.

We expect that our research and development expenses in 2010 will be higher than in 2009 as a result of the full enrollment of the Phase III safety trials for Zelrix and the increased regulatory work related to the NDA that we expect to submit for Zelrix during the fourth quarter of 2010. We also expect to incur additional research and development expenses in 2010 as we accelerate the development of NP201 and NP202. These expenditures are subject to numerous uncertainties regarding timing and cost to completion. Completion of our preclinical development and clinical trials may take several years or more and the length of time generally varies according to the type, complexity, novelty and intended use of a product candidate. The cost of clinical trials may vary significantly over the life of a project as a result of differences arising during clinical development, including, among others:

- The number of sites included in the trials;
- The length of time required to enroll suitable subjects;
- The size of subject populations participating in the trials;
- The duration of subject follow-ups;
- The development stage of the product candidates; and
- The efficacy and safety profile of the product candidates.

Neither Zelrix nor any of our other product candidates has received FDA approval. In order for the FDA to approve a product candidate, the FDA must conclude that clinical data establishes the safety and efficacy of such product candidate. We currently anticipate submitting an NDA for Zelrix in the fourth quarter of 2010. We expect to incur research and development costs of approximately \$11 million to \$13 million through the end of 2011 to complete development of Zelrix. As discussed above, due to the numerous risks and uncertainties associated with timing and costs to completion of clinical trials, we cannot determine these future expenses with certainty and the actual range may vary significantly from our forecast.

Additionally, we expect to incur aggregate costs of approximately 5.4 million relating to the funding of commercial manufacturing equipment for Zelrix, as described in more detail under Business License, Development and Commercial Agreements LTS Lohmann Therapie Systeme AG. As of June 30, 2010, 3.8 million, or approximately \$4.7 million based on exchange rates in effect as of June 30, 2010, remain to be paid in monthly installments under this agreement. We also expect to incur additional costs relating to post-marketing studies to gather additional information regarding Zelrix's risks, benefits and optimal use.

We currently anticipate submitting an IND for NP201 in the first half of 2011 and NP202 in 2012. Due to their early stages of development, we are unable to determine the duration and completion costs of our NP201 and NP202 development projects. As a result of the difficulties forecasting NP201 and NP202 development costs, as well as the other uncertainties discussed above, we are unable to determine when and to what extent we will generate revenues from the commercialization and sale of an approved product candidate.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries, benefits and other related costs, including stock-based compensation, for personnel serving in our executive, finance, accounting, legal, market research and

human resource functions. Our general and administrative expenses also include facility and related costs not included in research and development expenses, professional fees for legal, including patent-related expenses, consulting, tax and accounting services, insurance, depreciation and general corporate expenses. We expect that our general and administrative expenses will increase with the continued development and potential commercialization of our product candidates.

We expect that our general and administrative expenses in 2010 will be higher than in 2009 as a result of greater expenses relating to our operations as a public company, including increased costs for the hiring of additional personnel, and for payment to outside consultants, including lawyers and accountants, to comply

Table of Contents

with additional regulations, corporate governance, internal control and similar requirements applicable to public companies, as well as increased costs for insurance. Additionally, we plan to increase spending related to building a commercial infrastructure for the anticipated launch of Zelrix in the U.S. in the first half of 2012. However, in an effort to control our spending related to commercialization efforts, we currently plan to hire most of our sales and marketing personnel only if Zelrix is approved by the FDA.

Interest Income and Interest Expense

Interest income consists of interest earned on our cash and cash equivalents. Interest expense consists primarily of cash and non-cash interest costs related to our outstanding debt. Additionally, in connection with some of our debt financings, we issued warrants, the fair value of which we recorded as deferred financing costs. We amortize these deferred financing costs over the lives of the loans as interest expense in our statement of operations. Excluding the impact of non-cash interest costs, we expect interest expense to increase in 2010 compared with 2009 as a result of the April 2010 Convertible Notes and the May 2010 Loan Facility.

Net Operating Losses and Tax Loss Carryforwards

Our net loss was \$4.0 million for the three months ended March 31, 2010 and \$15.6 million for the year ended December 31, 2009. We have incurred cumulative net losses of \$53.0 million from inception through March 31, 2010. As of December 31, 2009, we had approximately \$43.4 million of federal net operating loss carryforwards and state research and development credits available to offset future taxable income. These federal and state net operating loss carryforwards will begin to expire in 2024. Due to the uncertainty of our ability to realize the benefit of any net operating loss carryforwards and credits, the deferred tax asset related to these carryforwards has been fully offset by a valuation allowance at December 31, 2009.

The closing of this offering, together with private placements and other transactions that have occurred since our inception, may trigger, or may have already triggered, an ownership change pursuant to Section 382 of the Code. If an ownership change is triggered, it will limit our ability to use some of our net operating loss carryforwards. In addition, since we will need to raise substantial additional funding to finance our operations, we may undergo further ownership changes in the future, which could further limit our ability to use net operating loss carryforwards. As a result, if we generate taxable income, our ability to use some of our net operating loss carryforwards to offset U.S. federal taxable income may be subject to limitations, which could result in increased future tax liability to us.

Critical Accounting Policies and Use of Estimates

We have based our management's discussion and analysis of our financial condition and results of operations on our financial statements, which have been prepared in accordance with accounting principles generally accepted in the U.S. The preparation of these financial statements requires us to make estimates that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements as well as the reported expenses during the reporting periods. On an ongoing basis, we evaluate our estimates and judgments, including those related to clinical trial expenses and stock-based compensation. We base our estimates on historical experience and on various other factors that we believe to be appropriate under the circumstances. Actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are more fully discussed in note 3 to our financial statements appearing at the end of this prospectus, we believe that the following accounting policies are critical to the process of making significant judgments and estimates in the preparation of our financial statements. We have reviewed these critical accounting policies and estimates with the audit committee of our board of directors.

Research and Development Expenses

Although we manage the conduct of our own clinical trials, we rely on third parties to conduct our preclinical studies and to provide services, including data management, statistical analysis and electronic compilation for our clinical trials, as well as for the manufacture of our clinical trial supplies. At the end of each reporting period, we compare the payments made to each service provider to the estimated progress towards completion of the related project. Factors that we consider in preparing these estimates include the

Table of Contents

number of subjects enrolled in studies, milestones achieved and other criteria related to the efforts of our vendors. These estimates are subject to change as additional information becomes available. Depending on the timing of payments to vendors and estimated services provided, we record net prepaid or accrued expenses related to these costs. We calculate expenses incurred for the manufacture of our clinical supplies using our estimate of costs and capitalize these expenses on our balance sheet to the extent we hold clinical supply materials on hand to be distributed for use in our clinical trials. We expense these costs as the supplies are consumed in the trials.

Stock-Based Compensation

We use the Black-Scholes option-pricing model to value our stock option awards. The Black-Scholes option-pricing model requires the input of subjective assumptions, including the expected life of stock options and stock price volatility. As a private company, we do not have sufficient history to estimate the expected life of our options or the volatility of our common stock price. We use the simplified method, as allowed under the Securities and Exchange Commission's, or SEC, accounting guidance, to determine the expected life, which is the midpoint between an option's vesting date and contractual term. We use comparable public companies as a basis for our expected volatility to calculate the fair value of our option grants. We intend to continue to consistently apply this process using comparable companies until a sufficient amount of historical information regarding the volatility of our own share price becomes available. The risk-free interest rate is based on U.S. Treasury instruments with a remaining term equal to the expected term of the option. The assumptions used in calculating the fair value of stock options represent our best estimate and involve inherent uncertainties and the application of our judgment. As a result, if factors change and we use different assumptions, stock-based compensation could be materially different in the future.

The fair value of our common stock underlying grants of common stock options and restricted stock was determined by our board of directors or compensation committee pursuant to authority delegated by our board of directors and represents the most important factor in determining the value of our stock-based compensation. In the absence of a public trading market for our common stock, our board of directors or compensation committee was required to estimate the fair value of our common stock at the grant date of our stock-based awards.

Prior to December 2006, our board of directors or our compensation committee estimated the fair value of our common stock considering the following factors:

The nature and history of our business;

The general economic outlook and the outlook for the life sciences industry;

Our financial condition and results of operations, including important developments in our operations, most significantly relating to the clinical development of our most advanced product candidate, Zelrix;

Our ability to pay dividends;

Whether or not we had goodwill or other intangible value;

Our past transactions in common stock and preferred stock; and

The stock prices of other publicly traded companies engaged in lines of business that are the same or similar to ours.

Beginning in December 2006, our compensation committee obtained independent third party valuations to assist it in estimating the fair value of our common stock. These valuations took into account clinical and other notable

milestones with respect to Zelrix. The first independent third party valuation of our common stock took place following the sale of Series A preferred stock in August 2006 when we engaged an independent third party valuation firm to assist our compensation committee in determining the fair value of our common stock as of December 31, 2006. In connection with the sale of Series B preferred stock in July 2008, and in anticipation of the grant of a significant number of stock options covering our common stock in the third quarter of 2008, we again engaged an independent third party valuation firm to assist our compensation committee in determining the fair value of our common stock as of July 8, 2008.

Table of Contents

The following table summarizes the proceeds from the issuance of our preferred stock through June 30, 2010:

Issuance	Date	Number of Shares	Net Proceeds (In millions)
Series A preferred stock	August and October 2006	11,546,161	\$ 9.7
Series A preferred stock	October 2007	5,376,345	5.0
Series B preferred stock	April and July 2008	25,282,556	23.2
Series B preferred stock	August 2009	10,891,278	10.1
		53,096,340	\$ 48.0

Although we sold all of the shares of Series A and Series B preferred stock at a price of \$0.93 per share, our compensation committee did not believe that the value placed on these shares of preferred stock provided a direct indication of the fair value of our common stock because the preferred stock is entitled to preferences, rights and protections that are not applicable to our common stock. As of June 30, 2010, because of these preferences, the holders of the Series A and Series B preferred stock were entitled to receive a liquidation preference of \$57.8 million and to participate with the common stockholders on an as-converted basis in the remaining value of our company.

In order to estimate the fair value of our common stock, we estimated the aggregate fair value of our common stock and preferred stock, which we refer to as our aggregate equity value, and then allocated this value between our preferred stock and common stock using a Black-Scholes call option method, as described in more detail below. In addition, we applied an illiquidity discount to our estimate of the fair value of our common stock to account for the heightened level of risk of our shares compared to shares of comparable, publicly traded companies.

In estimating our aggregate equity value, we used methodologies and assumptions consistent with the American Institute of Certified Public Accountants Practice Guide, or the AICPA Practice Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. The primary methodologies that we considered to determine our aggregate equity value were a market-based approach and an asset-based approach.

Under the market-based approach, we calculated the valuation multiples relative to the total assets, equity and cash-on-hand for comparable, publicly traded companies. We then applied those multiples to our assets, equity and cash-on-hand as of the valuation date.

We considered comparable companies to be publicly traded companies that have pharmaceutical and biopharmaceutical product candidates in the early stages of development or clinical trials that could be considered comparable to us for valuation purposes. We primarily considered public companies that had a limited group of drug or product candidates that were in comparable stages of clinical development.

For purposes of the December 31, 2006 valuation, we searched for publicly traded companies that had drug or product candidates that were in Phase I clinical trials or preclinical development with up to \$15.0 million in revenues. Additionally, we reviewed information regarding potential competitors and researched companies that we historically have used as benchmarks for financial or operational comparison purposes. In order to determine the most comparable companies, we reviewed the business descriptions, product candidates and financial characteristics of these companies. Some of the companies had product candidates targeting similar markets as our product candidates. From this group of companies, we selected the most

comparable entities for valuation purposes.

For purposes of the July 8, 2008 valuation, our search for comparable publicly traded companies was consistent in the approach for the December 31, 2006 valuation, except that we primarily searched for publicly traded companies that had a drug or product candidates that were in the early stages of a Phase III clinical trial or that had drug or product candidates in Phase I or Phase II clinical development with up to \$15.0 million in revenues.

Table of Contents

Under the asset-based approach, we calculated the fair value of our assets based on an estimate of how much it might cost a third party to replace or replicate our assets. This approach is based on the concept that a prudent investor would pay no more for an asset than the amount it would cost the investor to replace the asset with a new asset. In addition, this method assumes that a buyer of our company would be willing to pay us for the cost that the buyer would incur to replicate our investment in our product candidates. Accordingly, under this method, we estimated our aggregate equity value as the sum of the market value of our net tangible assets and the cumulative research and development cost that we incurred on Zelrix and our other product candidates through the valuation date.

The aggregate equity values for the market and asset-based approaches were similar. However, we ultimately derived the aggregate equity value in our December 31, 2006 and July 8, 2008 valuations from the market-based approach. We then allocated the aggregate equity value between the common stock and the preferred stock using a Black-Scholes call option pricing method. Under this method, we estimated the fair value of our common stock as the net value of a series of call options, representing the present value of the expected future returns to the common stockholders. We considered the rights of the common stockholders to be equivalent to a call option on our future value in excess of the aggregate liquidation preferences payable on Series A and Series B preferred stock, with adjustments to account for the rights retained by the preferred stockholders related to any value in excess of the applicable liquidation preferences. Using this method, we valued the common stock by estimating the value of a share of common stock in each of these call option rights.

As discussed above, we then reduced the value of the common stock using this approach by applying an illiquidity discount to account for the heightened level of risk associated with our shares compared to that of comparable, publicly traded companies.

The December 31, 2006 valuation of our common stock was based on an aggregate equity value of \$8.5 million. The value allocated to the common stock after applying the call option allocation methodology and a 35% illiquidity discount was \$1.44 per share. Our compensation committee believed the increase in the estimated fair value of common stock from \$0.96 per share prior to December 2006 to \$1.44 per share was appropriate in light of the continued progress of Zelrix in its preclinical development program as of December 2006, coupled with the initial sale of Series A preferred stock in August 2006 at \$0.93 per share.

The July 8, 2008 valuation of our common stock was based on an aggregate equity value of \$30.2 million. The value allocated to the common stock after applying the call option allocation methodology and a 35% illiquidity discount was \$1.92 per share. The increase in the aggregate equity value compared to the December 31, 2006 valuation reflected our sale of additional Series A preferred stock in October 2007, the initial sale of Series B preferred stock in July 2008 and the continued investment in, and advancement of, our product candidates. In particular, in the first quarter of 2008, we successfully completed a Phase I proof of concept study for Zelrix that provided encouraging pharmacokinetic data that was a predicate for continued development.

On each grant date subsequent to December 31, 2006, our compensation committee considered the most current independent valuation that had been completed and the continued validity of that valuation given the progress, if any, that we had made in the development of Zelrix and our other product candidates, external market factors and other conditions, as discussed above. The following table summarizes our stock-based awards issued since our inception to December 31, 2009. We have not issued any stock-based awards since December 31, 2009.

Table of Contents

Issuance Date	Per Share Fair Value of Preferred Stock on a Common Stock Equivalent Basis⁽¹⁾	Per Share Fair Value of Common Stock⁽²⁾	Common Stock	Number of Awards Options⁽³⁾	Total
1/1/2005 - 6/30/2005		\$ 0.64	13,723		13,723
7/1/2005 - 12/31/2005		0.80		34,646	34,646
1/1/2006 - 6/30/2006		0.96	52,405 ⁽⁴⁾	16,217	68,622
7/1/2006 - 12/31/2006	\$ 7.45	1.44	61,753 ⁽⁴⁾	46,890	108,643
1/1/2007 - 6/30/2007	7.45	1.44		21,207	21,207
7/1/2007 - 12/31/2007	7.45	1.44		47,094	47,094
1/1/2008 - 6/30/2008	7.45	1.44		14,346	14,346
7/1/2008 - 12/31/2008	7.45	1.92		734,816	734,816
1/1/2009 - 6/30/2009	7.45	1.92		57,970	57,970
7/1/2009 - 12/31/2009	7.45	1.92		10,477	10,477
			127,881	983,663	1,111,544

(1) Reflects the fair value of the preferred stock on a per share basis after giving effect to the ratio at which the preferred stock will convert into common stock based on the reverse split of our common stock that was effected on July 20, 2010.

(2) The per share estimated fair value of our common stock as determined by our compensation committee as of the date of the grant, taking into account various factors and including the results, if applicable, of independent third party valuations of our common stock as discussed above.

(3) All options were granted with an exercise price equal to the then fair value of our common stock.

(4) Represents restricted common stock awards subject to vesting criteria.

On July 14, 2010, we and the underwriters determined the estimated price range for this offering, as set forth on the cover page of this prospectus. The midpoint of the price range is \$15.00 per share. In comparison, our estimate of the fair value of our common stock was \$1.92 per share as of July 8, 2008. This estimate of fair value as of July 8, 2008 was based on an independent third party valuation report received by us. We note that, as we believe is typical in initial public offerings, the price range for this offering was not derived using a formal determination of fair value. Rather, it was determined based upon discussions between us and the underwriters. Among the factors that were considered in setting this range were prevailing market conditions and the prospects for our company and the industry in which we operate. Specifically, we believe that the increase in the fair value of our common stock since July 8, 2008 is primarily the result of the following factors:

The continued development of Zelrix since July 2008, including:

the initiation and subsequent successful completion of a pivotal Phase III clinical trial in July 2009;

the completion of enrollment of patients and, through June 30, 2010, treatment of over 6,250 migraines in two Phase III safety trials;

the commencement of two additional pharmacokinetic trials, which were initiated in December 2009 and February 2010;

the July 2010 notification by the FDA that the skin sensitization data being collected during our two Phase III safety trials has the potential to be sufficient, subject to review by the FDA as part of the NDA for Zelrix, without the need to conduct a separate skin sensitization study;

Table of Contents

our execution of the equipment funding agreement with LTS on June 1, 2010, whereby LTS began the purchasing, development and construction of the equipment necessary to produce our commercial supply of Zelrix; and

our recent determination that we believe we will submit an NDA for Zelrix in the fourth quarter of 2010.

The advancement of our NP201 product candidate since July 2008, including:

the completion of a proof of concept study in a well-accepted animal model for Parkinson's disease;

our execution of a license agreement with SurModics, on September 23, 2009, whereby we received an exclusive worldwide license to certain of Surmodics intellectual property;

the completion of a pre-IND meeting with the FDA in the first quarter of 2010; and

our recent determination that we believe we will submit an IND for NP201 in the first half of 2011.

The advancement of our NP202 product candidate since July 2008, including:

the commencement of the development of prototype products for NP202;

the commencement of pre-IND activities for NP202; and

our recent determination that we believe we will submit an IND for NP202 in 2012.

We believe that when the independent third party valuation was performed in July 2008, general market conditions (both private and public) were extremely negative. We believe that the markets have demonstrated a significant improvement. Notably, the AMEX Biotechnology Index has increased by approximately 36% from July 8, 2008 through July 14, 2010.

We also believe that it is reasonable to expect that the completion of this offering will result in increased liquidity and stockholders' ability to sell shares of our common stock in the public markets. In addition, upon the closing of this offering, the preferred stock currently outstanding will automatically convert into shares of common stock and, as a result, the common stock will not be subject to any preferred preferences, rights or protections upon closing.

Results of Operations

Comparison of Three Months Ended March 31, 2009 and 2010

Research and Development Expenses

Research and development expenses for the three months ended March 31, 2009 and 2010 were comprised of the following:

Three Months Ended March 31,	Increase (Decrease)
---	--------------------------------

	2009	2010	\$	%
			(In thousands)	
Clinical development, regulatory and manufacturing expenses	\$ 1,774	\$ 2,499	\$ 725	41%
Research and preclinical expenses	503	114	(389)	(77)
Compensation and related expenses	599	673	74	12
Facilities and related expenses	120	104	(16)	(13)
	\$ 2,996	\$ 3,390	\$ 394	13

Research and development expenses increased by \$0.4 million, or 13%, to \$3.4 million in the three months ended March 31, 2010 from \$3.0 million in the three months ended March 31, 2009. This increase resulted primarily from a \$0.3 million increase in manufacturing costs related to production of Phase III clinical supplies of Zelrix and a \$0.4 million increase due to our continued Phase III clinical program for Zelrix, offset by a \$0.4 million decrease in preclinical expenses, reflecting the completion in 2009 of a

Table of Contents

substantial portion of our preclinical studies for Zelrix and our increased focus on our Phase III clinical program for Zelrix. Research and development headcount remained consistent for the three months ended March 31, 2009 as compared to the three months ended March 31, 2010, with the minimal increase in compensation and related expenses resulting from annual increases in salary, bonus and benefit premiums.

Research and development expenses by program for the three months ended March 31, 2009 and 2010 are presented below:

	Three Months Ended March 31,		Increase (Decrease)	
	2009	2010	\$	%
	(In thousands)			
Zelrix	\$ 2,206	\$ 2,542	\$ 336	15%
NP201	70	70		
Development expenses - general	720	778	58	8
	\$ 2,996	\$ 3,390	\$ 394	13

The increase in spending on Zelrix in the three months ended March 31, 2010 was primarily due to the continuation of our Phase III clinical program and the related manufacture of Phase III clinical supplies, offset by lower preclinical spending due to the completion of many of our preclinical studies in 2009. Spending on NP201 remained consistent for the three months ended March 31, 2009 as compared to the three months ended March 31, 2010. The spending in the first quarter of 2009 was for NP201 preclinical studies and the spending in the first quarter of 2010 was for consulting expenses for NP201. Personnel related expenses, including salaries and benefits, are included in the table above as general development expenses as we do not allocate these expenses to specific programs.

General and Administrative Expenses

General and administrative expenses increased to \$0.9 million in the three months ended March 31, 2010 from \$0.8 million for the three months ended March 31, 2009. This increase resulted primarily from a \$42,000 increase in marketing expenses due to higher consulting fees and a \$30,000 increase in compensation expenses due to annual merit salary increases.

Interest Income/Expense

Interest income decreased to \$1,000 in the three months ended March 31, 2010 from \$19,000 in the three months ended March 31, 2009 due to lower average cash and cash equivalent balances.

Interest expense decreased to \$11,000 in the three months ended March 31, 2010 from \$56,000 in the three months ended March 31, 2009 primarily as a result of lower outstanding amounts due under the term loan we entered into in 2007. In addition, interest expense decreased by \$20,000 due to the impact of a favorable non-cash adjustment for the mark-to-market of outstanding warrant liabilities as of March 31, 2010.

Income Tax Benefit

We recognized an income tax benefit of \$320,000 in the three months ended March 31, 2010 and \$151,000 in the three months ended March 31, 2009 related to the sale of Pennsylvania research and development tax credits to a third party buyer.

Table of Contents***Comparison of Years Ended December 31, 2008 and 2009******Research and Development Expenses***

Research and development expenses for the years ended December 31, 2008 and 2009 were comprised of the following:

	Year Ended December 31,		Increase (Decrease)	
	2008	2009	\$	%
	(In thousands)			
Clinical development, regulatory and manufacturing expenses	\$ 4,257	\$ 7,081	\$ 2,824	66%
Research and preclinical expenses	2,172	1,385	(787)	(36)
Compensation and related expenses	1,950	2,388	438	22
Facilities and related expenses	436	456	20	5
	\$ 8,815	\$ 11,310	\$ 2,495	28

Research and development expenses increased by \$2.5 million, or 28%, to \$11.3 million in 2009 from \$8.8 million in 2008. This increase resulted primarily from a \$3.2 million increase in costs related to our pivotal Phase III clinical trial and our Phase III safety trials for Zelrix and a \$0.4 million increase in compensation costs, offset by a \$0.6 million decrease in preclinical expenses, reflecting our focus on our Phase III clinical program for Zelrix, and a \$0.6 million decrease in manufacturing expenses. The increase in compensation costs in 2009 primarily reflected our addition of research and development personnel, particularly in the areas of quality assurance, regulatory and medical, throughout 2008. The costs of these additional personnel were reflected as a full year of expense in 2009. The decrease in preclinical expense in 2009 primarily reflected the completion of our preclinical NP201 study in the first half of 2009, which had been ongoing throughout 2008. The decrease in manufacturing expenses in 2009 primarily reflected prototype development work in 2008 for NP201 that did not recur in 2009.

Research and development expenses by program for the years ended December 31, 2008 and 2009 are presented below:

	Year Ended December 31,		Increase (Decrease)	
	2008	2009	\$	%
	(In thousands)			
Zelrix	\$ 5,590	\$ 8,183	\$ 2,593	46%
NP201	743	244	(499)	(67)
Development expenses general	2,482	2,883	401	16
	\$ 8,815	\$ 11,310	\$ 2,495	28

The significant increase in spending on Zelrix in 2009 was primarily due to the continuation of our Phase III clinical program. As we completed and analyzed the results of our preclinical trial for NP201, our spending on NP201 declined by 67% in 2009. Personnel related expenses, including salaries and benefits, are included in the table above as general development expenses as we do not allocate these costs to specific product candidates.

Acquired In-Process Research and Development Expenses

In July 2008, we entered into an asset purchase and license agreement with Travanti Pharma Inc., or Travanti. Pursuant to the terms of the Travanti agreement, we paid \$5.5 million to Travanti for the purchase of a patent application, and a worldwide license in the field of migraine to additional intellectual property, directed to transdermal delivery of anti-migraine medications using an active delivery patch. We recognized the purchase price in our statement of operations for the year ended December 31, 2008 as acquired in-process research and development because additional research and development efforts and marketing approval in the U.S. is required in order to commercialize Zelrix, which utilizes this patent application.

Table of Contents*General and Administrative Expenses*

General and administrative expenses were \$3.1 million in both 2009 and 2008. Although general and administrative compensation expenses increased by \$0.4 million in 2009 due, in part, to the hiring of a chief financial officer in the fourth quarter of 2008, this increase was offset by decreases of \$0.2 million in legal expenses, \$0.1 million in market research expenses and \$0.1 million in other general expenses.

Interest Income/Expense

Interest income decreased to \$30,000 in 2009 from \$158,000 in 2008 due to lower average cash and cash equivalent balances, consisting primarily of bank deposits and money market mutual funds invested in short-term corporate and government obligations, and lower yields on investments.

Interest expense increased to \$1.3 million in 2009 from \$0.3 million in 2008 primarily as a result of the non-cash beneficial conversion feature and the fair value of the warrants issued in connection with the issuance of convertible debt in July 2009. This convertible debt converted into shares of Series B preferred stock in August 2009.

Income Tax Benefit

In 2009, we recognized an income tax benefit of \$151,000 related to the sale of Pennsylvania research and development tax credits to a third party buyer.

Comparison of Years Ended December 31, 2007 and 2008*Research and Development Expenses*

Research and development expenses for the years ended December 31, 2007 and 2008 were comprised of the following:

	Year Ended December 31,		Increase (Decrease)	
	2007	2008	\$	%
	(In thousands)			
Clinical development, regulatory and manufacturing expenses	\$ 5,063	\$ 4,257	\$ (806)	(16)%
Research and preclinical expenses	1,347	2,172	825	61
Compensation and related expenses	1,098	1,950	852	78
Facilities and related expenses	253	436	183	72
	\$ 7,761	\$ 8,815	\$ 1,054	14

Research and development expenses increased by \$1.1 million, or 14%, to \$8.8 million in 2008 from \$7.8 million in 2007. This increase resulted primarily from a \$0.7 million increase in preclinical expenses related to toxicology studies for Zelrix and preclinical studies for NP201 that were initiated in 2008, a \$0.9 million increase in compensation costs and a \$0.2 million increase in facilities and related expenses, offset by a \$0.6 million decrease in manufacturing expenses and a \$0.2 million decrease in regulatory costs due to the submission of our IND for Zelrix in

2007. The increase in compensation costs in 2008 primarily reflected our addition of research and development personnel, particularly in the areas of quality assurance, regulatory and medical, throughout 2008. The increase in facilities and related expenses in 2008 resulted from the leasing of our new corporate headquarters in Conshohocken, Pennsylvania in March 2008. The decrease in manufacturing expenses in 2008 primarily reflected our substantial completion of the formulation and test method development for Zelrix in 2007.

Table of Contents

Research and development expenses by program for the years ended December 31, 2007 and 2008 are presented below:

	Year Ended December 31,		Increase (Decrease)	
	2007	2008	\$	%
	(In thousands)			
Zelrix	\$ 5,837	\$ 5,590	\$ (247)	(4)%
NP201	559	743	184	33
Development expenses general	1,365	2,482	1,117	82
	\$ 7,761	\$ 8,815	\$ 1,054	14

The decrease in spending on Zelrix in 2008 is described in more detail above. The increase in spending on NP201 in 2008 specifically related to a preclinical study that we initiated in 2008. As also described above, our increased research and development headcount in 2008 was the primary reason for the increase in general research and development expenses in 2008.

General and Administrative Expenses

General and administrative expenses increased by \$1.2 million, or 63%, to \$3.1 million in 2008 from \$1.9 million in 2007. This increase resulted primarily from a \$0.5 million increase in compensation expenses associated with additional headcount, a \$0.2 million increase in market research expenses, a \$0.2 million increase in legal expenses and a \$0.3 million increase in facility related expenses due to the leasing of our new corporate headquarters in March 2008.

Interest Income/Expense

Interest income decreased to \$158,000 in 2008 from \$223,000 in 2007 due to lower average cash and cash equivalent balances and lower yields on investments.

Interest expense increased to \$278,000 in 2008 from \$253,000 in 2007 due to a full year of expense related to a term loan entered into in March 2007 for \$2.5 million.

Liquidity and Capital Resources

Since our inception in 2005, we have devoted most of our cash resources to research and development and general and administrative activities primarily related to the development of Zelrix. We have financed our operations primarily with the proceeds of the sale of convertible preferred stock and convertible notes and borrowings under debt facilities. To date, we have not generated any revenues from the sale of products, and we do not anticipate generating any revenues from the sale of Zelrix until at least 2012. We have incurred losses and generated negative cash flows from operations since inception. As of March 31, 2010, our principal sources of liquidity were our cash and cash equivalents, which totaled \$0.6 million. Our working capital was \$(2.4) million as of March 31, 2010.

Equity Financings

From inception through March 31, 2010, we have received net proceeds of \$48.0 million from the sale of convertible preferred stock and convertible notes. The various issuances of our preferred stock are described in more detail under Critical Accounting Policies and Use of Estimates Stock-Based Compensation.

Debt Facilities

As of March 31, 2010, we had \$0.6 million of debt outstanding under a term loan that we entered into in 2007. In April 2010, we received gross proceeds of \$10.1 million from the sale of the April 2010 Convertible Notes. These notes bear interest at 8% per year and are due on December 31, 2010, if not converted prior to such date. The outstanding principal balance and accrued interest on the April 2010 Convertible Notes will

Table of Contents

convert into shares of common stock upon the closing of this offering at a conversion price equal to 80% of the price to the public in this offering.

In May 2010, we entered into the May 2010 Loan Facility to fund our working capital requirements. Under the May 2010 Loan Facility, \$5.0 million was advanced on the closing date, which we refer to as the Term A Loan, and, upon our receipt of at least \$30.0 million in unrestricted net cash proceeds from the sale of equity securities, including pursuant to this offering, the private sale of equity or convertible debt securities, or upfront payments from a joint venture or partnership, we will have a 12-month period during which we may request an additional \$6.0 million in funding, which we refer to as the Term B Loan. We refer to the Term A and Term B Loans together as the Term Loans. The funding of the Term B Loan is subject to our compliance with the terms of the May 2010 Loan Facility, including the continued accuracy of our representations and warranties contained therein, and is at the lenders' sole discretion. The Term Loans have a scheduled maturity date in August 2013. The May 2010 Loan Facility is secured by substantially all of our assets, excluding intellectual property, which is subject to a negative pledge prohibiting the granting of liens thereon to any third party.

We used \$0.4 million of the proceeds from the Term A Loan to repay all outstanding amounts owed under the term loan that we entered into in 2007. Amounts outstanding under the May 2010 Loan Facility bear interest at LIBOR plus 8.75% per year, with a LIBOR floor of 3%. Until June 2011, the Term Loans only require monthly payments of interest. Thereafter, the Term Loans will amortize on a straight line basis, and we will be required to pay 27 equal monthly installments of principal and interest through the maturity date.

The May 2010 Loan Facility does not contain any financial covenants, although it does contain operating covenants, including covenants restricting our ability to incur additional indebtedness, pay dividends or other distributions, effect a sale of any part of our business and merge with or acquire another company. The May 2010 Loan Facility also includes customary events of default, including upon the occurrence of a payment default, a covenant default, a material adverse change and our insolvency. Further, the May 2010 Loan Facility provides for a three day cure period for a breach of payment obligations other than payment of principal and interest, for which no cure period is provided. A ten day cure period, which may be extended to up to 30 days in certain circumstances, is also provided for defaults that do not constitute an event of default under the May 2010 Loan Facility, breach specified affirmative covenants or breach a negative covenant.

In connection with the Term A Loan, we issued the lenders warrants to purchase 255,376 shares of Series B preferred stock at an exercise price of \$0.93 per share. The number of shares exercisable under the warrant will automatically increase by up to an additional 306,452 shares of Series B preferred stock if the Term B Loan is funded in full. The warrants have a ten year exercise period and include a put option right in favor of the lenders in connection with certain major corporate events, events of default and maturity of the May 2010 Loan Facility. Upon the closing of this offering, in accordance with their terms, the put option right will terminate and the outstanding warrants will automatically become exercisable for 31,861 shares of common stock at an exercise price of \$7.45 per share of common stock.

Future Capital Requirements

We expect that the net proceeds from this offering and our existing cash and cash equivalents will be sufficient to fund our operations and capital requirements, including payment obligations under our outstanding debt, for at least the next 24 months. We believe that these available funds will be sufficient to complete the development of Zelrix through FDA approval and to fund the expected commercial launch of Zelrix in the U.S. in the first half of 2012. However, it is difficult to predict our spending relative to Zelrix and our other product candidates prior to obtaining FDA approval. Moreover, changing circumstances may cause us to expend cash significantly faster than we currently anticipate, and we may need to spend more cash than currently expected because of circumstances beyond our control.

Our expectations regarding future cash requirements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments that we make in the future. We have no current understandings, agreements or commitments for any material acquisitions or licenses of any products,

Table of Contents

businesses or technologies. We may need to raise substantial additional capital in order to engage in any of these types of transactions.

We expect to continue to incur substantial additional operating losses for at least the next several years as we continue to develop our product candidates and seek marketing approval and, subject to obtaining such approval, the eventual commercialization of Zelrix and our other products candidates. If we obtain marketing approval for Zelrix, we will incur significant sales, marketing and outsourced manufacturing expenses. In addition, we expect to incur additional expenses to add operational, financial and information systems and personnel, including personnel to support our planned product commercialization efforts. We also expect to incur significant costs to comply with corporate governance, internal controls and similar requirements applicable to us as a public company following the closing of this offering.

Our future use of operating cash and capital requirements will depend on many forward-looking factors, including the following:

The timing of our submission to the FDA, and outcome of the FDA's review, of the NDA for Zelrix;

The extent to which the FDA may require us to perform additional clinical trials for Zelrix;

The timing and success of this offering;

The costs of our commercialization activities for Zelrix, if it is approved by the FDA;

The cost of purchasing manufacturing and other capital equipment for our potential products;

The scope, progress, results and costs of development for our other product candidates;

The cost, timing and outcome of regulatory review of our other product candidates;

The extent to which we acquire or invest in products, businesses and technologies;

The extent to which we choose to establish collaboration, co-promotion, distribution or other similar agreements for product candidates; and

The costs of preparing, submitting and prosecuting patent applications and maintaining, enforcing and defending intellectual property claims.

To the extent that our capital resources are insufficient to meet our future operating and capital requirements, we will need to finance our cash needs through public or private equity offerings, debt financings, corporate collaboration and licensing arrangements or other financing alternatives. The covenants under the May 2010 Loan Facility and the pledge of our assets as collateral limit our ability to obtain additional debt financing. We have no committed external sources of funds. Additional equity or debt financing or corporate collaboration and licensing arrangements may not be available on acceptable terms, if at all.

If we raise additional funds by issuing equity securities, our stockholders will experience dilution. Debt financing, if available, would result in increased fixed payment obligations and may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. Any debt financing or additional equity that we raise may contain terms, such as liquidation and other preferences, that are not favorable to us or our stockholders. If we raise additional funds through

collaboration and licensing arrangements with third parties, it may be necessary to relinquish valuable rights to our technologies, future revenue streams or product candidates or to grant licenses on terms that may not be favorable to us.

Table of Contents**Cash Flows**

The following table summarizes our cash flows from operating, investing and financing activities for the years ended December 31, 2007, 2008 and 2009 and the three months ended March 31, 2009 and March 31, 2010:

	Year Ended December 31,			Three Months Ended March 31,	
	2007	2008	2009	2009	2010
	(In thousands)				
Statement of Cash Flows Data:					
Total cash provided by (used in):					
Operating activities	\$ (8,629)	\$ (12,274)	\$ (13,568)	\$ (2,844)	\$ (3,063)
Investing activities	(36)	(5,627)	(29)	(12)	(20)
Financing activities	7,284	22,439	9,155	(236)	(251)
Increase (decrease) in cash and cash equivalents					
	\$ (1,381)	\$ 4,538	\$ (4,442)	\$ (3,092)	\$ (3,334)

Operating Activities

Net cash used in operating activities for the three months ended March 31, 2010 was \$3.1 million, an increase of \$0.2 million from the three months ended March 31, 2009. This increase was due to increased spending on our Phase III clinical program for Zelrix, which was in a more advanced stage in the three months ended March 31, 2010 than in the three months ended March 31, 2009.

Net cash used in operating activities for the year ended December 31, 2009 was \$13.6 million, an increase of \$1.3 million from the year ended December 31, 2008. This increase was primarily due to a \$3.2 million increase in research and development expenses for our pivotal Phase III clinical trial and our Phase III safety trials for Zelrix, partially offset by a \$0.6 million decrease in manufacturing expenses and a \$0.6 million decrease in preclinical development expenses, as described in more detail under Results of Operations. Net cash used in operating activities for the year ended December 31, 2008 was \$12.3 million, an increase of \$3.6 million from the year ended December 31, 2007. This increase was primarily due to the \$2.2 million increase in operating expenses in 2008, as described in more detail under Results of Operations, and \$0.7 million for prepaid clinical supplies that we purchased in 2008 for use in future clinical trials.

We expect cash used in operating activities to increase in 2010 as compared to 2009 due to an expected increase in our operating losses associated with the Phase III safety trials for Zelrix and costs associated with the expected submission of an NDA for Zelrix during the fourth quarter of 2010 and the expected acceleration of our preclinical development programs.

Investing Activities

Cash used in investing activities for the purchase of property and equipment was \$12,000 in the three months ended March 31, 2009 and \$20,000 in the three months ended March 31, 2010.

Cash used in investing activities for the purchase of property and equipment was \$29,000 in 2009, \$127,000 in 2008 and \$36,000 in 2007. Additionally, in 2008 we expended \$5.5 million in connection with our acquisition of a patent

application utilized in Zelrix and a worldwide license in the field of migraine to additional intellectual property.

Financing Activities

Cash used in financing activities was \$0.3 million for the three months ended March 31, 2010 and \$0.2 million for the three months ended March 31, 2009. These amounts reflect scheduled debt repayments.

Table of Contents

Cash provided by financing activities for the year ended December 31, 2009 was \$9.2 million, reflecting \$10.1 million of net proceeds from the sale of Series B preferred stock, partially offset by scheduled debt repayments of \$0.9 million.

Cash provided by financing activities for the year ended December 31, 2008 was \$22.4 million, reflecting \$23.2 million of net proceeds from the sale of Series B preferred stock, partially offset by scheduled debt repayments of \$0.9 million.

Cash provided by financing activities for the year ended December 31, 2007 was \$7.3 million, reflecting \$5.0 million of net proceeds from the sale of Series B preferred stock and \$2.4 million, net of issuance costs, from a term loan that we entered into in 2007, partially offset by scheduled debt repayments of \$0.1 million.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements, except for operating leases, or relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities.

Contractual Obligations

The following table summarizes our contractual obligations as of December 31, 2009:

Contractual Obligations ⁽¹⁾	Total	Payments Due by Period			
		2010	2011 and 2012 (In thousands)	2013 and 2014	2015 and Thereafter
Debt obligations ⁽²⁾	\$ 818	\$ 818			
Interest payments on debt	42	42			
License maintenance fees ⁽³⁾	330	30	\$ 100	\$ 100	\$ 100
Operating lease obligations	1,143	346	708	89	
Development expenditures ⁽⁴⁾	1,750	250	500	500	500
	\$ 4,083	\$ 1,486	\$ 1,308	\$ 689	\$ 600

(1) This table does not include any contingent milestone or royalty payments that may become payable to third parties under license agreements because the timing and likelihood of such payments are not known.

Additionally, this table does not include payments due under an agreement we entered into with LTS as of June 1, 2010, pursuant to which we agreed to pay to LTS an aggregate of 5.4 million in 14 monthly installments that commenced in June 2010 for the purchase of manufacturing equipment for Zelrix. As of June 30, 2010, 3.8 million, or approximately \$4.7 million based on exchange rates in effect as of June 30, 2010, are to be paid in the remaining monthly installments under this agreement. The terms of this agreement are described in more detail under Business License, Development and Commercial Agreements LTS Lohmann Therapie-Systeme AG.

(2)

This table does not reflect the \$10.1 million outstanding principal balance under the April 2010 Convertible Notes and the \$5.0 million outstanding principal balance under the May 2010 Loan Facility. Outstanding principal and accrued interest under the April 2010 Convertible Notes automatically convert into shares of common stock upon the closing of this offering. The terms of the repayment of the May 2010 Loan Facility are described in more detail under [Liquidity and Capital Resources](#) [Debt Facilities](#).

- (3) Under an agreement with Penn, we are required to pay annual license maintenance fees of up to \$50,000 until the first commercial sale of the first licensed product covered by the agreement. The agreement currently covers NP201 and NP202. In 2010, the annual fee is \$30,000. After 2010, the annual fee is \$50,000. Because we cannot currently estimate when the first sale of a licensed product will occur, the table reflects payments only through 2016.
- (4) Under the agreement with Penn discussed in footnote 3 to this table, we are required to expend an aggregate of at least \$250,000 annually toward the development and commercialization of NP201 and

Table of Contents

NP202, until the first commercial sale of the first licensed product under the agreement. Because we cannot currently estimate when the first sale of a licensed product will occur, the table reflects payments only through 2016.

In addition to the contractual commitments reflected in the table above, we have agreed to pay Penn aggregate milestone payments of up to \$950,000, per licensed product, upon the achievement of specified development and regulatory milestones related to each licensed product that contains ropinirole and other specified active ingredients, including the active ingredients in NP201 and NP202, and royalties in the low single digits on worldwide net sales of such licensed products. We and Penn have agreed to negotiate the milestone payments and royalties payable for each licensed product that contains an active ingredient other than those currently specified in the agreement. We are unable to determine the timing of the achievement of these milestones or whether and when we will commercialize and generate any sales for a licensed product.

We have also entered into a license agreement with SurModics under which we have agreed to pay SurModics milestone payments of up to an aggregate amount of \$4.75 million upon the first achievement of specified development, regulatory and sales level milestones related to the first clinical indication approved by a regulatory authority for NP201, our product candidate that is covered by the agreement. We must also pay an additional single milestone payment upon regulatory approval of each additional clinical indication for NP201 and royalties in the low single digits on worldwide net sales of commercial product. We are unable to determine the timing of the achievement of these milestones or whether and when we will commercialize and generate any sales for a licensed product.

Recent Accounting Pronouncements

We have adopted new accounting guidance on fair value measurements effective January 1, 2008, for financial assets and liabilities. In addition, effective January 1, 2009, we adopted this guidance as it relates to nonfinancial assets and liabilities that are not recognized or disclosed at fair value in the financial statements on at least an annual basis. This guidance defines fair value as the price that would be received to sell an asset or paid to transfer a liability, referred to as the exit price, in an orderly transaction between market participants at the measurement date. The guidance outlines a valuation framework and creates a fair value hierarchy in order to increase the consistency and comparability of fair value measurements and the related disclosures. The adoption of this guidance did not have a material impact on our financial statements.

In June 2008, the Financial Accounting Standards Board, or FASB, issued new guidance related to assessing whether an equity-linked financial instrument (or embedded feature) is indexed to an entity's own stock for the purposes of determining whether such equity-linked financial instrument (or embedded feature) is subject to derivative accounting. We adopted this new guidance effective January 1, 2009. The adoption of this guidance did not have a material impact on our financial statements.

In May 2009, the FASB issued a new standard regarding subsequent events. The standard provides guidance on management's assessment of subsequent events and incorporates this guidance in accounting literature. The guidance is effective prospectively for interim and annual periods ending after June 15, 2009. We adopted this guidance beginning with the interim period ended June 30, 2009. The adoption of this guidance did not have a material impact on our financial statements.

In April 2009, the FASB issued a staff position requiring fair value disclosures in both interim and annual financial statements in order to provide more timely information about the effects of current market conditions on financial instruments. The guidance is effective for interim and annual periods ending after June 15, 2009. We adopted this guidance beginning with the issuance of our September 30, 2009 financial statements. The adoption of this guidance did not have a material impact on our financial statements.

In June 2009, the FASB Accounting Standards Codification, or ASC, was issued, effective for financial statements issued for interim and annual periods ending after September 15, 2009. The ASC supersedes literature of the FASB, Emerging Issues Task Force and other sources. The ASC did not change U.S. generally accepted accounting principles. The adoption of this guidance did not have a material impact on our financial statements.

Table of Contents

Quantitative and Qualitative Disclosures about Market Risk

The primary objective of our investment activities is to preserve our capital to fund operations. We also seek to maximize income from our investments without assuming significant risk. Our exposure to market risk is confined to our cash and cash equivalents. As of March 31, 2010, we had cash and cash equivalents of \$0.6 million. We do not engage in any hedging activities against changes in interest rates. Because of the short-term maturities of our cash and cash equivalents, we do not believe that an increase in market rates would have any significant impact on the realized value of our investments, but may increase the interest expense associated with our debt.

We have no operations outside the U.S. We have, however, entered into two agreements with a manufacturer in Germany. Under one of these agreements, the manufacturer provides services to us related to the production and assembly of Zelrix. Under this agreement, we paid \$2.1 million in 2008, \$1.2 million in 2009 and \$0.2 million in the three months ended March 31, 2010 to this manufacturer. Under the other agreement, we have agreed to pay the manufacturer an aggregate of 5.4 million in 14 monthly installments that commenced in June 2010, for the purchase of manufacturing equipment for Zelrix, which will be installed in the U.S. As of June 30, 2010, 3.8 million, or approximately \$4.7 million based on exchange rates in effect as of June 30, 2010, are to be paid in the remaining monthly installments under this agreement.

Because of these agreements, we are subject to fluctuations in exchange rates. We are currently in the process of transferring our existing manufacturing activities with this manufacturer to the U.S. and anticipate that all of our commercial manufacturing activities will be located in the U.S. following this transfer, thereby substantially eliminating our exposure to fluctuation in the relative values of the U.S. dollar and the Euro.

Table of Contents

BUSINESS

Overview

We are a specialty pharmaceutical company focused on the development and commercialization of branded therapeutics for diseases of the central nervous system, including neurological and psychiatric disorders. Our most advanced product candidate, Zelrix, is an active, single-use transdermal sumatriptan patch that we are developing for the treatment of acute migraine. Zelrix uses our proprietary SmartRelief technology. We successfully completed a pivotal Phase III clinical trial for Zelrix in July 2009 and expect to submit a New Drug Application, or NDA, to the United States Food and Drug Administration, or FDA, in the fourth quarter of 2010. Before we submit our NDA, we must complete two ongoing pharmacokinetic trials in healthy subjects and obtain interim data from two ongoing open label Phase III long-term safety trials, or our Phase III safety trials. Subject to the approval of our NDA, we plan to build our own specialty sales force in the U.S. to launch Zelrix. We have two other proprietary product candidates in preclinical development that address large market opportunities, NP201 for the continuous symptomatic treatment of Parkinson's disease and NP202 for the long-term treatment of schizophrenia and bipolar disorder.

Migraine affects approximately 28 million people in the U.S. In 2009, according to IMS Health Inc., or IMS, a leading provider of pharmaceutical industry market data, U.S. sales of prescription products for migraine exceeded \$2 billion, over 96% of which were for a class of medication called triptans.

In a majority of their migraines, most migraine patients, or migraineurs, suffer from one or more significant gastrointestinal problems, which include nausea, vomiting and a compromised ability to digest, known as decreased gastric motility. Nausea and vomiting impede the use of oral medications, while reduced gastric motility can result in inconsistent efficacy. According to a survey with over 500 respondents conducted by the National Headache Foundation in 2008, 90% of migraineurs have experienced nausea with a migraine and 59% of migraineurs have experienced vomiting with a migraine. In this survey, 48% of respondents who ever experienced nausea or vomiting with a migraine reported that the nausea or vomiting had a moderate to major impact on when or how they take migraine medications.

The American Academy of Neurology, or AAN, guidelines recommend a non-oral route of administration for migraineurs who experience nausea or vomiting as significant migraine symptoms. Despite this recommendation and the prevalence of nausea and vomiting, IMS reported that non-oral formulations comprised only 4% of triptan units sold in the U.S. in 2009. According to U.S. prescribing information, FDA approved non-oral migraine treatments, limited to nasal spray and injectable formulations, are associated with frequent adverse events. There is no patch approved for the treatment of migraine. We believe that Zelrix will provide an attractive alternative to migraineurs, especially those experiencing nausea and vomiting, inconsistent relief from oral treatments or adverse events associated with triptan use.

In addition to Zelrix, we are developing other product candidates that target opportunities where we believe improved medication delivery can address significant central nervous system medical needs. Based on preclinical testing, we believe that NP201 and NP202, both of which use our long-acting delivery, or LAD, technology, will be able to deliver stable medication levels for multiple months with a single administration.

Table of Contents**Our Product Candidates**

The following table summarizes key information about our existing product candidates. We hold worldwide commercialization rights to all of our product candidates.

Product Candidate	Indication(s)	Description	Development Status
Zelrix	Acute migraine	Active, single-use sumatriptan transdermal patch	Expected NDA submission during fourth quarter of 2010. Pivotal Phase III clinical trial completed. Two ongoing Phase III safety trials. Two ongoing pharmacokinetic trials in healthy subjects.
NP201	Parkinson's disease	Ropinirole two-month implant	Expected Investigational New Drug submission during first half of 2011. Preclinical proof of concept completed.
NP202	Schizophrenia and bipolar disorder	Atypical antipsychotic three-month implant	Expected Investigational New Drug submission in 2012. Prototype development in progress.

Migraine Market***Overview***

Migraine is a debilitating neurological disease that affects approximately 28 million people in the U.S. Symptoms of migraine include moderate to severe headache pain, nausea and vomiting, photophobia, or abnormal sensitivity to light, and phonophobia, or abnormal sensitivity to sound. Most migraines last between four and 24 hours, but some last as long as three days. According to an article by Dr. Richard Lipton published in 2007 in *Neurology*, a peer-reviewed medical journal, 63% of migraineurs experience between one and four migraines per month, and 31% of migraineurs experience three or more migraines per month. Migraineurs are limited in their daily function during a migraine and often seek dark, quiet surroundings until the migraine has passed.

According to an article, also by Dr. Richard Lipton, published in 2001 in *Headache*, a peer-reviewed medical journal, which we refer to as Lipton, over 18% of women and over 6% of men in the U.S. experience migraines. Lipton further reported that migraines are most common in the working population, from 25 to 55 years old, and can be sufficiently serious to cause migraineurs to miss work or school. According to an article by Dr. Kevin Hawkins published in 2008 in *Headache*, estimated direct medical expenditures for migraine, including outpatient costs, pharmaceutical costs, inpatient costs and emergency department costs, exceed \$11.0 billion per year in the U.S.

According to IMS, over 13 million prescriptions for medications indicated for acute migraine were filled in the U.S. in 2009. More than 90% of these prescriptions were for triptans. Triptan sales in the U.S. in 2009 exceeded \$2.0 billion, with approximately 123 million individual units sold.

Migraine-Associated Nausea and Vomiting

Symptoms other than headache pain contribute significantly to the disability caused by acute migraine. In particular, nausea and vomiting during a migraine can be severe and incapacitating. According to an article by Dr. Stephen Silberstein published in 1995 in *Headache*, 92% of migraineurs have experienced nausea at least once during a migraine, and 56% of these migraineurs experience nausea in a majority of migraines. Silberstein also reported that 68% of migraineurs have experienced vomiting at least once during a migraine, and 32% of these migraineurs experience vomiting in a majority of migraines. Accordingly, these data indicate that 52% of all migraineurs experience nausea in a majority of migraines and 22% of all migraineurs experience vomiting in a majority of migraines.

Table of Contents***Treatment of Acute Migraine***

The FDA has approved acute migraine prescription medications in four classes:

Triptans, including a triptan combination;

Ergotamines and dihydroergotamine, or DHE;

Analgesic combinations; and

A non-steroidal anti-inflammatory drug, or NSAID, which commercially launched in June 2010.

Currently, triptans constitute the most prescribed class of medication for the treatment of acute migraine in the U.S. Sumatriptan, approved by the FDA in 1992, is the most widely prescribed triptan, according to IMS.

The following table summarizes U.S. unit and dollar sales information for 2009, by product class, for prescription products indicated for the treatment of acute migraine, based on IMS data:

Product Class	Key Product Brands (Drug)	Route of Administration	2009 Units Sold⁽¹⁾ (% Total)	2009 Sales (% Total)
Triptan	Generic sumatriptan and Imitrex Maxalt (rizatriptan) Zomig (zolmitriptan) Relpax (eletriptan) Treximet (sumatriptan/naproxen)	Tablet, orally disintegrating tablet, nasal spray, injection	122.9 million (69.2%)	\$2.1 billion (96.8%)
Analgesic Combination	Epidrin, Midrin, Migrazone and generics (isometheptene mucate, dichloralphenazone, acetaminophen) Prodrin (acetaminophen, caffeine, isometheptene)	Capsule	48.4 million (27.2%)	\$15.0 million (0.7%)
Ergotamine	Migranal (dihydroergotamine) DHE-45 and generics (dihydroergotamine) Cafergot and generics (dihydroergotamine, caffeine)	Nasal spray, injection, tablet suppository	6.4 million (3.6%)	\$54.4 million (2.5%)

(1) A unit represents a single dose of each medication.

As of June 30, 2010, there were seven commercially available triptan medications in the U.S. utilizing a variety of routes of administration: tablet, orally disintegrating tablet, nasal spray and injection. According to IMS, oral triptans,

in tablet and orally disintegrating tablet formulations, accounted for 96% of triptan units sold in the U.S. in 2009, while non-oral triptans, in nasal spray and injectable formulations, accounted for only 4% of such triptan units.

Limitations of Current Treatments for Acute Migraine

We believe that most marketed migraine therapies are subject to significant limitations, including:

Administration challenges from nausea and vomiting. Patients with nausea often delay taking medication until the nausea subsides, may skip treatment altogether or, in extreme cases, force themselves to vomit. According to a survey conducted by the National Headache Foundation in 2008,

Table of Contents

48% of respondents who ever experienced nausea or vomiting with a migraine reported that the nausea or vomiting had a moderate to major impact on when or how they take migraine medications. In the same survey, some migraineurs reported they delay taking migraine medication until nausea subsides, while others reported they avoid taking their migraine medication altogether because of nausea or vomiting. This runs contrary to well-accepted clinical practice, which stresses the importance of treating migraines without delay.

Poor or inconsistent relief. According to a 2001 article by Dr. Michel Ferrari published in *The Lancet*, a peer-reviewed medical journal, clinical trials have demonstrated that at least 40% of migraineurs fail to respond consistently to oral triptans. Based on data from multiple published third party clinical trials, including those described in a 2005 article by Dr. David Dodick published in *Headache*, we believe patients' failure to respond consistently results from a variety of causes, including low and inconsistent absorption of oral medication because of reduced gastric motility.

Fear of adverse events. Many patients avoid or delay treatment because they fear adverse events, including triptan adverse events. Triptan adverse events include chest tightness, chest heaviness, numbness of the extremities, paresthesias, or tingling, and panic. According to U.S. prescribing information, the incidence of triptan adverse events is 47% for injection and up to 14% for oral sumatriptan. According to a 2003 article by Dr. R. Michael Gallagher published in *Headache*, 67% of migraine patients who use prescription migraine medication reported that they had delayed or avoided taking a prescription migraine medication due to concerns about adverse events.

As a result of these limitations, we believe that many migraineurs are dissatisfied with currently marketed medications. According to an article by Dr. Marcelo Bigal published in 2007 in *Headache*, over 80% of patients currently using a triptan have used a different triptan in the past and over 48% have used two or more different triptans or different formulations of the same triptan in the past. Bigal also reported that 79% of migraineurs stated that they would try a new medication.

Our Solution: Zelrix

We designed Zelrix specifically to overcome these limitations. Zelrix is an active, single-use sumatriptan transdermal patch that is applied during a migraine. Zelrix provides controlled delivery of sumatriptan through a non-oral route of administration. This approach is consistent with the AAN guidelines that recommend non-oral therapies for migraineurs who experience nausea or vomiting as significant migraine symptoms.

Zelrix Design

Zelrix utilizes SmartRelief, our proprietary transdermal delivery technology. SmartRelief consists of a controlled delivery technology that uses a mild electrical current to actively deliver medication through the skin in a process called iontophoresis. To use Zelrix, a patient applies the patch to the upper arm or thigh and presses a button. A small light on the patch indicates that the patch is delivering medication. Zelrix actively delivers sumatriptan for four hours. The patient may remove the patch whenever convenient after the dosing period.

Potential Benefits of Zelrix

We believe that Zelrix overcomes the limitations of currently marketed migraine medications by:

Circumventing nausea and vomiting. Because Zelrix is administered transdermally, we believe that it will be an attractive alternative for migraineurs suffering from nausea or vomiting who might otherwise delay or avoid taking medication.

Increasing consistency of response. Zelrix does not depend on gastrointestinal absorption. As a result, we believe that Zelrix will provide more consistent relief than oral triptans.

Minimizing triptan adverse events. Zelrix tightly controls the delivery of sumatriptan. As a result and based on our clinical trial experience, we believe that Zelrix use will result in a low incidence of triptan adverse events while effectively treating migraine.

Table of Contents

Patches have been used in the U.S. for decades for the transdermal delivery of various medications for a wide variety of indications, including nicotine addiction, birth control and pain relief. Because of the potential benefits of Zelrix and the familiarity of physicians and patients with patches, we believe that this route of administration of medication will be readily accepted by migraineurs.

Our Zelrix Development Program

We expect to submit an NDA for Zelrix to the FDA in the fourth quarter of 2010 under Section 505(b)(2) of the Federal Food, Drug, and Cosmetic Act, or FDCA. In addition to our Zelrix data, under Section 505(b)(2), our NDA submission will rely on existing published data and the FDA's previous finding of the safety and effectiveness of Imitrex. Before submitting our NDA, we are required to complete our two ongoing pharmacokinetic trials in healthy subjects and obtain interim data from our two Phase III safety trials as described below.

Our clinical trial program for Zelrix consists of:

Six completed Phase I clinical trials;

One completed pivotal Phase III clinical trial;

Two ongoing pharmacokinetic trials in healthy subjects; and

Two ongoing Phase III safety trials.

We established the primary and key secondary efficacy endpoints for our pivotal Phase III clinical trial for Zelrix based on discussions with the FDA. We believe, also based on our discussions with the FDA, that we are not required to conduct a second pivotal Phase III clinical trial for Zelrix.

As part of our NDA submission for Zelrix, the FDA indicated that it will require that we provide long-term clinical data for patients treated for six months and patients treated for one year. We plan to conduct an interim analysis of data from patients enrolled in our Phase III safety trials in order to be able to include these required data in our NDA submission.

In addition, because Zelrix will be applied to the skin, the FDA may require that we conduct a skin sensitization study. In July 2010, the FDA notified us that the skin sensitization data being collected during our two Phase III safety trials has the potential to be sufficient, subject to review by the FDA as part of the NDA for Zelrix, without the need to conduct a separate skin sensitization study. Depending on the outcome of the FDA's review, we may be required to conduct the separate skin sensitization study. We believe, however, that the skin sensitization data from our two Phase III safety trials will be sufficient.

The FDA also requested that we provide data in our NDA regarding an *in vitro* analytical testing method for Zelrix to confirm the amount of medication delivered. An *in vitro* analytical test is usually conducted on artificial tissue. To date, we have not successfully developed this test because Zelrix is designed to operate only on living tissue. We are working with the FDA to develop acceptable alternatives.

Pivotal Phase III Clinical Trial

Our pivotal Phase III clinical trial for Zelrix was a randomized, double-blind, placebo-controlled trial designed to compare the safety and efficacy of Zelrix to an active transdermal placebo patch in patients with acute migraine. The

inclusion criteria for the trial required that, in the three months prior to being randomized into the trial, patients generally had experienced moderate to severe pain during a migraine, had experienced migraines for at least one year and had reported from one to six migraines per month. Patients remained in the trial until they treated one migraine with a patch or two months after randomization into the trial, whichever occurred first.

The primary efficacy endpoint for the trial was the proportion of patients treated with Zelrix who were headache pain free at two hours after patch application compared to patients treated with placebo. Using a standard migraine diary, patients rated their baseline headache pain severity immediately prior to applying a patch using a four-point scale, with zero for no pain, one for mild pain, two for moderate pain and three for

Table of Contents

severe pain. Patients applied a patch only if they rated their baseline headache pain severity as a two (moderate) or three (severe). Patients also rated the presence or absence of nausea, photophobia and phonophobia immediately prior to applying a patch. After patch application, patients recorded headache pain severity and presence or absence of nausea, photophobia and phonophobia at 0.5, 1, 2, 3, 4, 6, 12 and 24 hours.

Pivotal trials for all previously FDA approved triptans have used pain relief, which means reduction from severe or moderate pain to mild or no pain, as a primary efficacy endpoint. We believe pain free, which required the patient to record zero (none) with respect to headache pain severity, is a more exacting standard than pain relief.

The key secondary endpoints for our pivotal Phase III clinical trial were:

The proportion of patients treated with Zelrix who were nausea free at two hours after patch application compared to patients treated with placebo;

The proportion of patients treated with Zelrix who were photophobia free at two hours after patch application compared to patients treated with placebo; and

The proportion of patients treated with Zelrix who were phonophobia free at two hours after patch application compared to patients treated with placebo.

Safety assessments in the trial included:

Adverse event assessments;

Investigator skin irritation examination scores; and

Subject skin irritation self-examination scores.

In this trial, we treated 469 patients at 38 investigative sites in the U.S. The patient demographics of this trial were similar to those reported in other large scale migraine clinical trials. The Zelrix patient population included 197 women and 37 men. The placebo patient population included 201 women and 34 men. Each patient population had a mean age of approximately 41 years.

We completed this trial in July 2009. Zelrix met each of the primary and key secondary endpoints with statistical significance. The following table summarizes the analysis of the primary endpoint, headache pain free at two hours and selected secondary endpoints:

Symptom Two Hours After Patch Application	LOCF [®]	Zelrix Patients		Placebo Patients		% Difference	p value ⁽³⁾
		226 Total	%	228 Total	%		
Headache pain free		40	17.7%	21	9.2%	8.5%	0.0092
Headache pain relief		119	52.9	65	28.6	24.3	<0.0001
Nausea free		189	83.6	144	63.2	20.4	<0.0001
Photophobia free		116	51.3	83	36.4	14.9	0.0028
Phonophobia free		125	55.3	89	39.0	16.3	0.0002

- (1) Intent-to-Treat Analysis: Patients are analyzed in the groups to which they were randomized, regardless of whether they received or adhered to the allocated treatment. ITT analysis provides unbiased comparisons among the treatment groups and is the primary statistical analysis used by the FDA.
- (2) Last Observation Carried Forward: Last observation carried forward is a method to address missing data. For each individual, missing values are replaced by the last observed value of that variable.
- (3) The results of a clinical trial are statistically significant if they are unlikely to have occurred by chance. We determined the statistical significance of the trial results based on a widely used, conventional statistical method that establishes the p value of the results. The FDA requires a p value of 0.05 or less to demonstrate statistical significance.

Table of Contents

In addition to achieving statistically significant results for the primary and key secondary endpoints, Zelrix also demonstrated statistically significant results for a number of other secondary endpoints, including:

Headache pain relief within one hour. Zelrix demonstrated statistically significant headache pain relief at one hour after patch application, with 29% of Zelrix patients experiencing headache pain relief as compared to 19% of placebo patients ($p = 0.0123$). While not statistically significant, 38% more Zelrix patients than placebo patients experienced pain relief in 30 minutes, 29 of 226 Zelrix patients compared to 21 of 228 placebo patients.

Sustained pain relief. In a retrospective analysis we conducted, for those patients who experienced pain relief at two hours, Zelrix demonstrated statistically significant sustained pain relief at each measurement point from two hours through 24 hours after patch application, with 34% of Zelrix patients experiencing sustained pain relief as compared to 21% of placebo patients ($p = 0.0015$). For purposes of this analysis, we defined patients with sustained relief as patients with no pain or mild pain at all measurement points from two hours through 24 hours after patch application and who had not taken rescue medication.

Freedom from nausea within one hour. Zelrix demonstrated statistically significant freedom from nausea at one hour after patch application, with 71% of Zelrix patients being nausea free as compared to 58% of placebo patients ($p = 0.0251$).

Freedom from migraine. Zelrix demonstrated statistically significant freedom from migraine at two hours after patch application, with 16% of Zelrix patients being migraine free as compared to 8% of placebo patients ($p = 0.0135$). Freedom from migraine means the absence of headache, nausea, photophobia and phonophobia.

Decreased use of rescue medication. Zelrix demonstrated a statistically significant difference in the number of patients that used pain or nausea rescue medication during the 24 hours after patch application, with 40% of Zelrix patients using rescue medication as compared to 60% of placebo patients ($p < 0.0001$). Rescue medications are any additional medications taken by the patient to relieve symptoms of migraine after patch application.

A total of 117 patients, or 50% of patients, receiving Zelrix and 103 patients, or 44% of patients, receiving the placebo patch experienced at least one treatment-emergent adverse event, which is an event that was not present prior to patch application or a worsening of either the intensity or frequency of a symptom following patch application. The most common adverse events reported in the trial among patients receiving Zelrix related to the application site and included application site pain and application site tingling. There were no deaths or serious adverse events in this trial. Zelrix demonstrated skin tolerability typical of other transdermal products, with mild to moderate redness generally present upon patch removal.

Patients receiving Zelrix exhibited a low incidence of triptan adverse events, with 1.7% experiencing atypical sensations and 1.7% experiencing pain and other pressure sensations. Patients described all of these adverse events to be of mild intensity, except for one adverse event, which a patient described as cold sensation head of moderate intensity.

Ongoing Open Label Phase III Long-Term Safety Trials

We are conducting two Phase III safety trials, both of which we initiated in the first quarter of 2009, to evaluate the safety of Zelrix in the treatment of acute migraine over 12 months. Patient eligibility requirements in these trials are similar to the requirements for our completed pivotal Phase III clinical trial. These two trials are fully enrolled with a

total of 714 patients at 34 investigative sites in the U.S. As of June 30, 2010, we had treated over 6,250 migraines with Zelrix in these trials.

As part of our NDA submission for Zelrix, the FDA indicated that it will require that we provide long-term clinical data for patients treated for six months and patients treated for one year. We plan to conduct an interim analysis of data from patients enrolled in our Phase III safety trials in order to be able to include these required data in our NDA.

Table of Contents**Phase I Clinical Trials**

We have completed six Phase I clinical trials of Zelrix. In four of these Phase I clinical trials, we evaluated Zelrix prototypes and design characteristics in healthy adult subjects to establish proof of concept. In the fifth Phase I clinical trial, we compared the pharmacokinetics of Zelrix to oral Imitrex in patients with migraine. Pharmacokinetics refers to a drug's absorption, distribution and metabolism in, and excretion from, the body and measures, among other things, bioavailability of a drug, or concentration of drug in the plasma.

In the sixth Phase I clinical trial, we compared the pharmacokinetics of Zelrix to three routes of administration of Imitrex in healthy adult subjects: 20 mg nasal spray, 100 mg tablet and 6 mg injection. As intended, treatment with Zelrix resulted in sumatriptan plasma levels between the levels of 20 mg Imitrex nasal spray and the 100 mg Imitrex oral tablet. After Zelrix application, sumatriptan absorption in plasma reached therapeutic levels within 30 minutes. In addition, in this trial, treatment with Zelrix resulted in less variability in sumatriptan plasma levels than either 100 mg oral tablet or 20 mg nasal spray formulations, supporting our belief that transdermal administration provides more predictable delivery by bypassing absorption through the gastrointestinal system.

At the time of patch removal, more than 75% of subjects had no or minimal skin redness, and within 48 hours following patch removal, all subjects had no or minimal skin redness. We also evaluated adverse events by different routes of administration. The trial categorized adverse events as either Atypical Sensations or Pain and Pressure Sensations. The following table sets forth each of these adverse events by category for each route of administration:

		Summary of Triptan Adverse Events			
Adverse Event		Number of Subjects Reporting Event (%)			
Categorization	Preferred Term	Injection (23 Subjects)	Oral (23 Subjects)	Nasal Spray (23 Subjects)	Zelrix (17 Subjects)
Atypical Sensation	Any adverse events	14 (60.9%)	2 (8.7%)		
	Burning sensation mucosal	3 (13.0%)			
	Ear discomfort	1 (4.3%)			
	Facial pain	1 (4.3%)			
	Feeling hot	2 (8.7%)			
	Flushing	6 (26.1%)			
	Head discomfort	1 (4.3%)	1 (4.3%)		
	Hot flush	3 (13.0%)	1 (4.3%)		
	Sensation of heaviness	1 (4.3%)			
	Sensation of pressure	1 (4.3%)			
Pain and Pressure Sensation	Any adverse events	2 (8.7%)	4 (17.4%)		
	Neck pain		2 (8.7%)		
	Sensation of heaviness	1 (4.3%)	1 (4.3%)		
	Sensation of pressure	1 (4.3%)	1 (4.3%)		

In subjects treated with oral and injectable sumatriptan, all of the triptan adverse events occurred in subjects with sumatriptan plasma levels exceeding 50 nanograms per milliliter. In this trial, the maximum sumatriptan plasma level

observed for subjects receiving Zelrix reached therapeutic levels, but did not exceed 50 nanograms per milliliter. We believe the ability of Zelrix to control sumatriptan plasma levels within this dosing range explains why subjects receiving Zelrix in this trial did not experience triptan adverse events.

Table of Contents

Ongoing Pharmacokinetic Trials in Healthy Subjects

We are conducting two additional pharmacokinetic trials in healthy subjects. One is designed to evaluate the pharmacokinetics of Zelrix in the young and elderly; the other is designed to evaluate the bioavailability of Zelrix. Each clinical trial will enroll approximately 60 subjects and must be completed prior to submitting our NDA.

Skin Irritation Study

In July 2010, we initiated a study of Zelrix to evaluate the skin irritation profile of the Zelrix patch. The study is designed to enroll 30 healthy adult subjects at one investigative site in the U.S. and to measure the amount of skin irritation resulting from repeated application of Zelrix. As of July 20, 2010, the study has enrolled ten healthy adult subjects. In July 2010, the FDA notified us that the planned number of subjects and trial design were sufficient to evaluate the irritation potential of Zelrix. We expect to include the skin irritation data as part of our NDA submission for Zelrix.

Commercial Strategy

If Zelrix is approved by the FDA, we plan to build a commercial infrastructure to launch Zelrix in the U.S., including a specialty sales force of approximately 100 people. We expect to direct our marketing efforts at high potential prescribers of Zelrix, including neurologists, headache specialists and select primary care physicians. We believe a sales force of this size will enable us to address a significant portion of the commercial opportunity for Zelrix. We may seek to further penetrate the U.S. market in the future by expanding our sales force or through collaborations with other pharmaceutical or biotechnology companies. This would enable us to target additional physicians who are high prescribers of migraine medications.

Once we establish our commercial infrastructure, we may acquire additional products to market and sell or collaborate with pharmaceutical or biotechnology companies to market and sell their products using our sales force. We may also seek to commercialize Zelrix outside the U.S., although we currently plan to do so only with a collaborator.

Pipeline Products

In addition to migraine, we also seek to identify other market opportunities in central nervous system disorders for which improved medication delivery can address significant medical needs. Our current research and development pipeline consists of two preclinical product candidates, one for the treatment of Parkinson's disease and one for the treatment of schizophrenia and bipolar disorder.

NP201: Product candidate for the continuous symptomatic treatment of Parkinson's disease

Parkinson's disease is a progressive, degenerative disease characterized by movement symptoms such as tremor or trembling in the hands, arms, and legs; rigidity of the limbs and trunk; slowness of movement; and impaired balance and coordination. According to the Parkinson's Disease Foundation, Parkinson's disease affects about one million people in the U.S. and more than four million people worldwide. Although symptoms of Parkinson's disease can appear at any age, the average age of onset is 60.

The loss of neurons in the brain that help to control movement causes Parkinson's disease. These neurons produce dopamine, a neurotransmitter that transmits signals that control movement. Currently, no cure exists for Parkinson's disease. Symptomatic treatments rely on the replacement of dopamine through either levodopa, which the brain converts to dopamine, or dopamine agonists, which mimic dopamine. According to IMS, 2009 sales of Parkinson's disease therapies in the U.S., European Union and Japan totaled approximately \$3.6 billion.

Multiple challenges complicate the treatment of Parkinson's disease. Intermittent dosing of oral medications leads to periods of "on" after dosing and periods of "off" as the medication wears off. During "on" periods, excessive levels of medication can produce adverse events, primarily abnormal movements. During "off" periods, low levels of medication lead to poor efficacy. In addition, Parkinson's disease is a

Table of Contents

progressive disease, which causes patients to become less responsive to their medication over time and more sensitive to excessive drug levels.

The majority of Parkinson's disease patients currently use oral medications that require administration one to three times per day, exposing the patient to varying medication levels. The intermittent dosing of oral medications further complicates treatment, as patients experience periods of on after dosing and periods of off as the medication wears off. According to a 2009 article by Dr. Fabrizio Stocchi published in *Parkinsonism and Related Disorders*, a peer-reviewed medical journal, experts believe that intermittent dosing may result in more frequent and serious adverse events and may hasten the progression of Parkinson's disease by causing harm to the remaining dopamine receptors. As Dr. Stocchi reported, studies suggest that continuous medication delivery can alleviate the symptoms of Parkinson's disease without inducing the abnormal movements caused by too much medication.

Only two Parkinson's disease medications currently provide for continuous delivery, and neither is approved in the U.S. Duodopa is a levodopa gel marketed by Solvay S.A. that requires the surgical insertion of a tube into the patient's small intestine. APO-go is an injectable apomorphine marketed by Britannia Pharmaceuticals Limited that requires the patient to wear a pump around his or her waist. Because both APO-go and Duodopa are difficult to administer, they are generally reserved for complicated and difficult to control patients.

We designed NP201 to provide continuous delivery of Parkinson's disease medication in an easy to administer and tolerable dose formulation. NP201 consists of our LAD technology combined with ropinirole, a generic, FDA approved dopamine agonist also known as Requip. After administration, NP201 is designed to slowly dissolve while releasing ropinirole.

We have studied NP201 in several animal models. We believe the data from these studies suggest that NP201 can provide continuous, stable medication levels for up to two months. In addition, we completed a proof of concept study in a well-accepted animal model of Parkinson's disease that we believe suggests NP201 has the potential to provide continuous symptomatic relief for up to two months per dose and to significantly decrease the incidence of adverse events associated with current treatments.

In March 2010, we met with the FDA to discuss our development plan for NP201. Based on this meeting, we believe that we can submit an NDA for NP201 under Section 505(b)(2) of the FDCA and that the FDA will require only a single successful pivotal Phase III clinical trial for approval. We plan to initiate an acute toxicology study for NP201 in the second half of 2010 and to submit an Investigational New Drug Application, or IND, in the first half of 2011.

NP202: Product candidate for the long-term treatment of schizophrenia and bipolar disorder

Schizophrenia is a life-long serious psychiatric illness that causes people to lose touch with reality and often interferes with their ability to think clearly, manage emotions, make decisions and relate to others. Bipolar disorder, or manic depression, is another life-long psychiatric illness that causes extreme shifts in mood, energy and functioning. These changes may be subtle or dramatic and typically vary greatly over the course of a person's life as well as among individuals.

According to the National Alliance on Mental Illness, schizophrenia affects over two million adults in the U.S., while bipolar disorder affects over ten million adults in the U.S. According to an article by Dr. Eric Wu published in 2005 in *The Journal of Clinical Psychiatry*, a peer-reviewed medical journal, as of 2002 the estimated direct healthcare costs of schizophrenia in the U.S. were \$22.7 billion, including outpatient care, medications and long-term care.

Patient compliance with medication has been a long-standing problem in the treatment of schizophrenia. As reported in an article by Dr. Jeffrey Lieberman published in 2005 in *The New England Journal of Medicine*, a peer-reviewed

medical journal, the Clinical Antipsychotic Trials in Intervention Effectiveness, or CATIE, study, conducted between 2001 and 2004, indicated that 74% of schizophrenia patients become non-compliant with their medication within 18 months of commencing the use of medication. According to an article by Patricia Thieda published in 2003 in *Psychiatric Services*, a peer-reviewed medical journal, schizophrenia patients with

Table of Contents

poor compliance are more than twice as likely to experience relapse than patients with good compliance. We believe medication compliance represents a significant opportunity for improved treatments.

In an attempt to improve patient compliance, physicians administer antipsychotic drugs through depot injections. Depot injections release medication over a longer period than conventional injections or oral medications. Depot injection products include Risperdal Consta and Invega Sustenna, both marketed by Johnson & Johnson, and Zyprexa Relprew, marketed by Eli Lilly & Co. These drugs provide two to four weeks of therapy per dose.

We believe that NP202 potentially could provide a significant improvement over existing treatment options for patients suffering from schizophrenia or bipolar disorder because:

We are developing NP202 to provide up to three months of continuous delivery of an atypical antipsychotic with a single dose. Currently available products provide therapy for only two to four weeks, resulting in frequent physician visits and increasing the risk of non-compliance;

We are designing NP202 to allow a physician to remove the implant at any time during the dosing period. With currently available injectable products, physicians and patients cannot stop therapy, which may discourage some physicians and patients concerned about adverse events; and

We are developing NP202 as an easy to administer, pre-loaded injectable product that can be stored at room temperature. Risperdal Consta, the leading depot injectable product, must be prepared and mixed prior to administration.

We have developed NP202 prototype products, initiated pre-IND activities and plan to submit an IND to the FDA in 2012.

Our Proprietary Delivery Technologies

Our current drug development activities use two proprietary medication delivery technologies: SmartRelief and LAD. Zelrix incorporates SmartRelief, while NP201 and NP202 both incorporate LAD. We own exclusive worldwide rights to both technologies.

SmartRelief Technology

SmartRelief is our proprietary transdermal medication delivery technology based on iontophoresis, a non-invasive method of actively transporting molecules, such as sumatriptan, that are not able to be delivered passively through the skin. Iontophoresis involves the application of a mild electrical current to the skin through two reservoirs. One reservoir contains ionized, or charged, medication. The other reservoir contains a counter ion, commonly sodium chloride, or salt. When a current is applied, medication molecules travel out of the reservoir into the skin, where blood vessels absorb and disburse them throughout the body.

Unlike passive transdermal technologies, which rely on diffusion for medication delivery, iontophoresis controls the amount and rate of medication delivery. Iontophoresis enables transdermal delivery of a variety of medications that cannot be delivered passively through the skin. It is possible to deliver a variety of different medications, including proteins and peptides, using iontophoresis. The FDA has approved two pharmaceutical products incorporating iontophoresis, Johnson & Johnson's IONSYS system and Vyteris, Inc.'s LidoSite topical system for analgesia, and multiple iontophoretic medical devices.

Long-Acting Delivery Technology

We designed LAD to improve the control, consistency and convenience of medication delivery. LAD is comprised of a biodegradable polymer matrix using commonly available medical polymers and an active drug, combined to form a small implant for injection just below the skin. We also have designed LAD to allow a physician to remove it using a minor surgical procedure if a decision is made to stop therapy.

To date, we have tested several neuropsychiatric compounds formulated with LAD in multiple animal models. Based on these studies, we believe LAD has the potential to treat patients for one to three months

Table of Contents

with a single dose of a therapy. As a result, we believe LAD has the potential, depending upon the indication, to improve one or more of efficacy, medication compliance and incidence of adverse events. We have not yet tested LAD in humans.

Manufacturing

We currently have no manufacturing facilities and limited personnel with manufacturing experience. We currently use, and expect to depend on, third party contract manufacturers to manufacture Zelrix and our other product candidates for our preclinical and clinical needs and, if we obtain marketing approval for our product candidates, for commercial supply. We believe our reliance on contract manufacturing helps us control our expenses, as the construction, maintenance and insurance of pharmaceutical manufacturing facilities requires significant capital.

We have established an internal quality control and quality assurance program, including a set of standard operating procedures and specifications consistent with current Good Manufacturing Practices, or cGMP. The cGMP requirements govern quality control of the manufacturing process and documentation policies and procedures. We depend on our third party contract manufacturers for continued compliance with cGMP requirements.

Multiple pharmaceutical manufacturers produce sumatriptan, the active ingredient in Zelrix. We currently purchase sumatriptan from two suppliers and the various components of SmartRelief from multiple manufacturers, all on a purchase order basis.

Under the terms of a development and license agreement that we entered into in September 2007, LTS Lohmann Therapie-Systeme AG, or LTS, manufactures Zelrix, including the incorporation of SmartRelief. We pay fees to LTS for manufacturing development, preparation of manufacturing documentation for our NDA, manufacture of our clinical supplies and preparation for commercial manufacturing. We expect to enter into a commercial manufacturing agreement for Zelrix with LTS. To that end, in June 2010, we entered into an equipment funding agreement with LTS, under which we agreed to fund the purchase by LTS of manufacturing equipment for Zelrix. The machinery that LTS will use to produce the commercial supply of Zelrix, if we enter into a commercial manufacturing agreement, will be customized to the particular manufacturing specifications of Zelrix. LTS will design this machinery and assemble it from components manufactured by third party suppliers and paid for by us pursuant to the equipment funding agreement.

We purchase preclinical supplies of NP201, consisting of LAD and the active ingredient, ropinirole, from SurModics Pharmaceuticals, Inc., or SurModics. Ropinirole is generic and available from multiple sources.

Competition

The pharmaceutical and biotechnology industries are intensely competitive and subject to rapid and significant technological change. Our major competitors include organizations such as major multinational pharmaceutical companies, established biotechnology companies and specialty pharmaceutical and generic drug companies. Many of our competitors have greater financial and other resources than we have, such as larger research and development staffs and more extensive marketing and manufacturing organizations. As a result, these companies may obtain marketing approval more rapidly than we are able and may be more effective in selling and marketing their products. Smaller or early stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large, established companies.

Our competitors may succeed in developing, acquiring or licensing on an exclusive basis technologies and drug products that are more effective or less costly than Zelrix or any other drug candidate that we are currently developing or that we may develop, which could render our products obsolete and noncompetitive. We expect any products that

we develop and commercialize to compete on the basis of, among other things, efficacy, safety, convenience of administration and delivery, price, the level of generic competition and the availability of reimbursement from government and other third party payors. We also expect to face competition in our efforts to identify appropriate collaborators or partners to help commercialize our product candidates in our target commercial markets.

Table of Contents

We anticipate Zelrix will compete with currently marketed triptans, including Imitrex (sumatriptan), Maxalt (rizatriptan), Zomig (zolmitriptan), Relpax (eletriptan), Axert (almotriptan), Frova (frovatriptan), Amerge (naratriptan), Treximet (sumatriptan/naproxen) and Sumavel DosePro (sumatriptan). In addition, we anticipate competition from generic sumatriptan, the active ingredient in Imitrex, and generic versions of other branded triptans that have lost or will lose their patent exclusivity. For example, Amerge, the branded version of naratriptan, lost patent protection in July 2010. In addition, we expect other triptan patents to expire between 2012 and 2025. Many of these products are manufactured and marketed by large pharmaceutical companies and are well accepted by physicians, patients and third party payors. Because of the low cost, health insurers likely would require or encourage use of, and consumers likely would use, a generic triptan prior to trying Zelrix. If approved, Zelrix will also compete with other currently approved products, including analgesic combinations, NSAIDs and ergotamines.

If approved, we believe that Zelrix's features, including its convenient, non-oral route of administration, controlled delivery of medication and consistent dosing, will differentiate it from existing migraine treatments, particularly for migraineurs suffering from nausea or vomiting.

In addition to marketed migraine medications, both large and small companies have migraine product candidates in various stages of clinical development. These include Merck & Co., Inc.'s telcagepant, an orally administered calcitonin gene related peptide antagonist, and Levadex from MAP Pharmaceuticals, Inc., an inhaled formulation of dihydroergotamine, both for acute migraine, and Allergan, Inc.'s Botox for chronic migraine. Each of these has either completed or is in Phase III clinical development.

Our strategy to compete in the migraine market includes:

- Elevating physician awareness of current treatment limitations and impact on patients;

- Emphasizing differentiating features of Zelrix; and

- Building on physician experience with sumatriptan.

As with Zelrix, if approved, each of NP201 and NP202 will face competition from generic and branded products. Specifically, NP201 will face competition from generic immediate release and extended release versions of ropinirole and the dopamine agonist pramipexole, as well as from two continuous delivery medications, a levodopa gel and an injectable apomorphine. NP202 will face competition from a variety of branded and generic versions of antipsychotic medications, in addition to several other sustained delivery depot formulations of atypical antipsychotics.

License, Development and Commercial Agreements

Our material license, development and commercial agreements are described below.

Travanti Pharma Inc.

In July 2008, we entered into an asset purchase and license agreement with Travanti Pharma Inc., or Travanti. In May 2009, Teikoku Pharma USA, Inc. acquired Travanti. Pursuant to the terms of the Travanti agreement, we paid \$5.5 million to Travanti for the purchase of a patent application, including all supporting documentation and priority documents, that is directed to transdermal delivery of anti-migraine medications using an active delivery patch. Under the agreement, we granted Travanti a nonexclusive, royalty-free, perpetual, worldwide license to use the purchased patent application, and the invention covered by such patent application, outside the field of migraine.

In addition, under the Travanti agreement, we obtained a perpetual, worldwide, exclusive, royalty-free license, with the right to grant sublicenses, under Travanti's patent rights, including issued U.S. Patent No. 6,745,071, as described in more detail under Intellectual Property and Exclusivity, and know-how that relate generally to specified iontophoresis technology to develop, make and commercialize migraine products. If we make improvements that directly relate to such Travanti patents and patent applications, Travanti will hold a nonexclusive, royalty-free, perpetual, worldwide license to use such improvements outside the field of migraine.

Table of Contents

The Travanti agreement does not contain any termination provisions under which our license rights would terminate.

LTS Lohmann Therapie-Systeme AG

In September 2007, we entered into a development and license agreement with LTS, which was amended as of April 2008, February 2009 and May 2010. Under the development and license agreement, LTS agreed to perform development activities relating to Zelrix in accordance with an agreed upon development plan. LTS must use commercially reasonable efforts to provide us with supplies for our clinical trials and also has provided us with supplies for our non-clinical use. We agreed to pay LTS for their services on an hourly basis. As of June 30, 2010, we have incurred fees of \$5.3 million under the development and license agreement with LTS, \$5.1 million of which have been paid.

Pursuant to the terms of the development and license agreement, each party exclusively owns any inventions related to such party's existing intellectual property that arise out of the development program. The parties jointly own any joint inventions that arise out of the development program not solely based on one party's existing intellectual property. Each party grants to the other a non-exclusive, royalty-free license under its respective intellectual property for the sole purpose of developing Zelrix. If we execute a commercial manufacturing agreement for Zelrix with LTS, LTS will have the exclusive right to manufacture Zelrix and LTS will grant us an exclusive, worldwide, royalty-free license under LTS's intellectual property to use, import, sell, market and distribute, or have imported, sold, marketed or distributed, Zelrix under the manufacturing agreement between LTS and us. If we do not execute a commercial manufacturing agreement with LTS, we may not have access to LTS's proprietary technology and know-how necessary to develop, manufacture or commercialize Zelrix.

An invention relating solely to our intellectual property arose in connection with the development and license agreement, and we filed a patent application covering that invention.

The development and license agreement remains in effect until the parties execute a commercial manufacturing agreement or until either party terminates the agreement by its terms. We may terminate the development and license agreement at any time upon 60 days notice to LTS. In addition, either party may terminate the agreement if the other party materially breaches the agreement and fails to cure the breach during a 60-day cure period. Either party may terminate the agreement if the development committee established under the agreement determines that it is not feasible to develop a product as anticipated under the development plan.

In June 2010, we entered into an equipment funding agreement with LTS, under which we agreed to fund the purchase by LTS of manufacturing equipment for Zelrix. We have agreed to make installment payments to LTS, in the aggregate amount of \$5.4 million in 14 monthly installments that commenced in June 2010, according to an agreed upon payment schedule. As of June 30, 2010, \$3.8 million, or approximately \$4.7 million based on exchange rates in effect as of June 30, 2010, are to be paid in the remaining monthly installments under this agreement.

Under the agreement, LTS will purchase and install the equipment according to an agreed upon project plan. We expect that the installation, validation and qualification of all of the equipment will be completed prior to our anticipated commercial launch of Zelrix in the first half of 2012.

LTS will own the purchased equipment and will be responsible for its routine and scheduled maintenance and repair. However, during the term of the LTS development and license agreement or any subsequent commercial manufacturing agreement that the parties may enter into, LTS will be required to use the purchased equipment solely for fulfilling its obligations to manufacture Zelrix. In addition, during the term of the development and license agreement or such commercial manufacturing agreement, LTS is prohibited from encumbering the purchased equipment and may not sell or dispose of such equipment, except that LTS may transfer ownership of it to its affiliate,

LTS Lohmann Therapy Systems Partnership L.P. Moreover, if we do not enter into a commercial manufacturing agreement with LTS or if we terminate the equipment funding

Table of Contents

agreement due to a breach by LTS, LTS must, at its option, either transfer ownership of the equipment to us or refund to us the purchase price of the equipment, less depreciation.

The equipment funding agreement will remain in effect until the later of the completion by LTS of all installation activities or the execution of a commercial manufacturing agreement.

University of Pennsylvania

We entered into a patent license agreement with the University of Pennsylvania, or Penn, which became effective in July 2006 and was amended in May 2007. Under the patent license agreement, Penn granted to us exclusive, worldwide rights under specified Penn patent applications, and patents issuing therefrom, to make, use and sell products using LAD. Under the agreement, we have the right to sublicense, subject to specified conditions, including the payment of sublicense fees.

The patent license agreement requires that we use commercially reasonable efforts to develop and commercialize licensed products. We must submit development plans annually for products we intend to develop. We must also commit at least \$250,000 annually towards the development and commercialization of licensed products, until the first commercial sale of the first licensed product.

Under the patent license agreement, we have paid Penn license initiation, transaction, amendment and maintenance fees totaling \$100,000 in the aggregate and must pay Penn annual license maintenance fees of up to \$50,000 until the first commercial sale of the first licensed product. The agreement currently covers NP201 and NP202. In addition, we have agreed to pay Penn aggregate milestone payments of up to \$950,000 upon the achievement of specified development and regulatory milestones related to each licensed product that contains ropinirole or other specified active ingredients, including the active ingredients in NP201 and NP202, and royalties in the low single digits on worldwide net sales of such licensed products. We and Penn have agreed to negotiate the milestone payments and royalties payable for each licensed product that contains an active ingredient other than those currently specified in the agreement. If we grant a sublicense of our rights under the Penn patent rights to a third party, we must pay Penn a specified portion of certain income received from such third party sublicensee.

The patent license agreement, and our obligation to pay royalties to Penn, will terminate, on a product by product basis, on the later of the expiration or abandonment of the last Penn patent, which we expect will occur in April 2027, or ten years after the first commercial sale of a licensed product if no patent issues from the patent applications licensed from Penn under the agreement. We may terminate the agreement at any time upon 60 days notice to Penn. Penn may terminate the agreement in connection with our uncured breach, bankruptcy or insolvency.

SurModics Pharmaceuticals, Inc.

In March 2007, we entered into a feasibility evaluation agreement with SurModics (formerly known as Brookwood Pharmaceuticals, Inc.), which was amended in December 2007, April 2008, July 2008, October 2008, March 2009 and May 2010. Under the feasibility evaluation agreement, we and SurModics, from time to time, enter into plans of work whereby SurModics performs evaluation, development and formulation work for NP201 and provides us with preclinical supplies of NP201.

Pursuant to the feasibility evaluation agreement, each party owns exclusively any inventions arising out of the development program if they are based solely on that party's existing intellectual property. Any inventions under the development program based on both parties' intellectual property are jointly owned. SurModics has the right to practice aspects of joint research inventions developed under the feasibility agreement that do not relate to our product or use our technology or confidential information. We received an option to obtain an exclusive, royalty bearing

license under SurModics' technology and intellectual property necessary to make, have made, use and sell NP201. We agreed to pay SurModics for its services and supplies on a time and materials basis. The feasibility evaluation agreement will remain effective until mutually agreed upon by the parties or until terminated by us upon at least two weeks' advanced written notice to SurModics.

Table of Contents

In September 2009, upon our exercise of the option under the feasibility evaluation agreement, we entered into a license agreement with SurModics, pursuant to which we received an exclusive worldwide license, with the right to sublicense, under SurModics' intellectual property, including its interest in joint inventions developed under the feasibility agreement, to make, have made, use, sell, import and export products covered by the license agreement, comprised of a biodegradable, preformed, macroscopic implant device consisting of ropinirole, as the sole active pharmaceutical ingredient, incorporated into the controlled delivery system developed or optimized under the feasibility agreement. The license agreement currently covers NP201. We granted SurModics an exclusive, perpetual, worldwide, royalty-free license under our interest in joint inventions for uses that do not relate to products covered by the agreement or include any of our existing technology or confidential information. We also granted SurModics a right of first negotiation to manufacture clinical supplies of covered products. If we and SurModics enter into such clinical manufacturing agreement, SurModics has a right of first negotiation to manufacture commercial supplies of covered products.

Under the license agreement, we have agreed to pay SurModics aggregate milestone payments of up to \$4.75 million upon the first achievement of specified development, regulatory and sales level milestones related to the first clinical indication approved by a regulatory authority for covered products. We must also pay an additional milestone payment upon regulatory approval of each additional clinical indication for covered products and royalties in the low single digits on worldwide net sales of commercial product. In countries where a valid SurModics patent claim does not cover the product, the applicable royalty rate decreases. If we do not enter into a commercial manufacturing agreement with SurModics, the applicable royalty rate will increase, though it will remain in the low single digits.

Under the license agreement we are responsible for developing and obtaining regulatory approval for covered products. We have agreed to use commercially reasonable efforts to actively develop and obtain regulatory approvals to market a covered product, including NP201, in major markets throughout the world. In addition, we have agreed to comply with specific diligence milestones to obtain such regulatory approval and to develop and commercialize a covered product in the U.S.

The license agreement and our obligation to pay SurModics royalties will terminate on a country by country basis on the later of the date on which a valid SurModics patent claim no longer covers the product or an agreed period after the first commercial sale of the product in such country. Thereafter the license will become an exclusive, perpetual fully paid-up license.

We have the right to terminate the license agreement for any reason at any time upon ninety days notice to SurModics. Either party has the right to terminate the agreement in connection with the other party's uncured material breach, bankruptcy or insolvency. SurModics may either terminate the license agreement or make it non-exclusive if we fail to meet the agreed upon diligence milestones or otherwise fail to use commercially reasonable efforts to develop and obtain regulatory approval for a covered product.

Intellectual Property and Exclusivity

We seek to protect our product candidates and our technology through a combination of patents, trade secrets, proprietary know-how, FDA exclusivity and contractual restrictions on disclosure.

Patents and Patent Applications

Our policy is to seek to protect the proprietary position of our product candidates by, among other methods, filing U.S. and foreign patent applications related to our proprietary technology, inventions and improvements that are important to the development of our business. U.S. patents generally have a term of 20 years from the date of nonprovisional filing. Because patent protection is not available for the active pharmaceutical ingredient compounds

included in our current product candidates, we will need to rely primarily on the protections afforded by device, formulation and method of use patents.

As of June 30, 2010, we exclusively license one issued U.S. patent and its foreign counterparts, and own six U.S. patent applications, as well as corresponding Patent Cooperation Treaty, or PCT, applications and their foreign counterparts, which relate to Zelrix.

Table of Contents

Our licensed issued U.S. Patent No. 6,745,071, owned by Travanti, is generally directed towards wearable iontophoretic devices, including Zelrix, that are prepackaged as complete self-contained units that include an active pharmaceutical ingredient to be administered, a provision for isolating moisture sources from the electrodes and from the power source during storage to optimize shelf stability, and a simple, user-friendly mechanism to transfer the active pharmaceutical ingredient and counter ion reservoirs to the electrodes. The expiration date for this patent is in 2023. There are corresponding patents in Australia, Canada and Korea which will also expire in 2023 and corresponding patent applications pending in China, Europe and Japan which will expire in 2023 if issued. Under the Travanti asset purchase and license agreement, we also have a perpetual, worldwide, exclusive, royalty-free license, in the field of migraine, to Travanti patents, patent applications and know-how that relate generally to iontophoresis.

Our six U.S. pending patent applications are generally directed to:

Methods and devices for treating migraine using integrated iontophoretic patches, including Zelrix;

Active ingredient reservoir formulations, including the Zelrix formulation; and

Electronic control systems and methods for use of the same in delivering an active for an integrated iontophoretic patch, including Zelrix.

Four of the U.S. applications currently have pending international applications. We have corresponding foreign patent applications in Australia, Brazil, Canada, China, Europe, Japan, Mexico, New Zealand, South Africa, Asia, India and Israel for one of these applications. The remaining two U.S. applications are related provisional applications and have yet to be foreign filed. If the four non-provisional U.S. applications and their foreign corresponding applications issue, we generally expect these patents to expire between 2027 and 2029. The two U.S. provisional applications, if pursued in non-provisional and foreign corresponding applications, and if issued, would generally be expected to expire in 2030.

Additionally, as of June 30, 2010, we own or exclusively license one issued U.S. patent and nine U.S. patent applications, as well as corresponding PCT patent applications and their foreign counterparts, relating to our LAD pipeline product candidates. The U.S. patent, and seven non-provisional U.S. applications and their corresponding foreign applications, if issued, are generally expected to expire between 2021 and 2027. The remaining two U.S. provisional applications, if pursued in non-provisional and foreign corresponding applications, and if issued, would generally be expected to expire in 2030. These patents and patent applications include claims generally directed to the LAD technology, as well as the use of the LAD technology in conjunction with various medications in the treatment of certain neurological and psychiatric diseases, including Parkinson's disease, schizophrenia and bipolar disorder.

Under the LTS development and license agreement and the SurModics license agreement, we have rights to LTS's and SurModics' proprietary processing and manufacturing technologies related to our product candidates.

FDA Marketing Exclusivity

The FDA may grant three years of marketing exclusivity in the U.S. for the approval of new and supplemental NDAs, including Section 505(b)(2) NDAs, for, among other things, new indications, dosages or dosage forms of an existing drug, if new clinical investigations that were conducted or sponsored by the applicant are essential to the approval of the application. Additionally, six months of marketing exclusivity in the U.S. is available under Section 505A of the FDCA if, in response to a written request from the FDA, a sponsor submits and the agency accepts requested information relating to the use of the approved drug in the pediatric population. This six month pediatric exclusivity period is not a standalone exclusivity period, but rather is added to any existing patent or non-patent exclusivity period

for which the drug product is eligible. Based on our clinical trial program for Zelrix, we plan to seek three years of marketing exclusivity upon receipt of FDA approval for Zelrix. We may also seek an additional period of six months exclusivity from the FDA if the FDA requests, and we successfully complete, pediatric clinical trials for Zelrix.

Table of Contents

Trade Secrets and Proprietary Information

We seek to protect our proprietary information, including our trade secrets and proprietary know-how, by requiring our employees, consultants and other advisors to execute confidentiality agreements upon the commencement of their employment or engagement. These agreements generally provide that all confidential information developed or made known during the course of the relationship with us be kept confidential and not be disclosed to third parties except in specific circumstances. In the case of our employees, the agreements also typically provide that all inventions resulting from work performed for us, utilizing our property or relating to our business and conceived or completed during employment shall be our exclusive property to the extent permitted by law. Where appropriate, agreements we obtain with our consultants also typically contain similar assignment of invention obligations. Further, we require confidentiality agreements from entities that receive our confidential data or materials.

Government Regulation

Federal Food, Drug and Cosmetic Act

Prescription drug products are subject to extensive pre- and post-market regulation by the FDA, including regulations that govern the testing, manufacturing, distribution, safety, efficacy, approval, labeling, storage, record keeping, reporting, advertising and promotion of such products under the FDCA, and its implementing regulations, and by comparable agencies and laws in foreign countries. Failure to comply with applicable FDA or other regulatory requirements may result in civil or criminal penalties, recall or seizure of products, partial or total suspension of production or withdrawal of the product from the market. The FDA must approve any new unapproved drug or dosage form, including a new use of a previously approved drug, prior to marketing in the U.S. All applications for FDA approval must contain, among other things, information relating to safety and efficacy, pharmaceutical formulation, stability, manufacturing, processing, packaging, labeling and quality control.

New Drug Applications

Generally, the FDA must approve any new drug before marketing of the drug occurs in the U.S. This process generally involves:

- Completion of preclinical laboratory and animal testing in compliance with the FDA's Good Laboratory Practice, or GLP, regulations;

- Submission to the FDA of an IND application for human clinical testing, which must become effective before human clinical trials may begin in the U.S.;

- Performance of human clinical trials, including adequate and well-controlled clinical trials, to establish the safety and efficacy of the proposed drug product for each intended use;

- Satisfactory completion of an FDA pre-approval inspection of the product's manufacturing facility or facilities to assess compliance with the FDA's cGMP regulations; and

- Submission to, and approval by, the FDA of an NDA application.

The preclinical and clinical testing and approval process requires substantial time, effort and financial resources, and we cannot be certain that the FDA will grant approvals for any of our product candidates on a timely basis, if at all. Preclinical tests include laboratory evaluation of product chemistry, formulation and stability, as well as studies to evaluate toxicity in animals. The results of preclinical tests, together with manufacturing information and analytical

data, comprise a part of an IND application submission to the FDA. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day time period, raises concerns or questions about the conduct of the clinical trial, including concerns regarding exposure of human research subjects to unreasonable health risks. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. Our submission of an IND may not result in FDA authorization to commence a clinical trial. In addition, the FDA requires a separate submission to an existing IND for each successive clinical trial conducted during product development.

Table of Contents

Further, an independent institutional review board, or IRB, covering each medical center proposing to conduct the clinical trial must review and approve the plan for any clinical trial before it commences at that center and it must monitor the clinical trial until completed. The FDA, the IRB or the sponsor may suspend a clinical trial at any time, or from time to time, on various grounds, including a finding that the subjects or patients are being exposed to an unacceptable health risk. As a separate amendment to an IND, a sponsor may submit a request for a special protocol assessment, or SPA, from the FDA. Under the SPA procedure, a sponsor may seek the FDA's agreement on the design, conduct and analyses of, among other things, a clinical trial intended to form the primary basis of an efficacy claim. If the FDA agrees in writing, it may not change its agreement after the clinical trial begins, except in limited circumstances, such as upon identification of a substantial scientific issue essential to determining the safety and effectiveness of a product candidate after commencement of a Phase III clinical trial. If the clinical trial succeeds, the sponsor can ordinarily rely on it as the primary basis for approval with respect to effectiveness. Clinical testing also must satisfy extensive Good Clinical Practice, or GCP, regulations, including regulations for informed consent, IRB review and approval and IND submission.

For purposes of an NDA submission and approval, typically, the conduct of human clinical trials occurs in the following three pre-market sequential phases, which may overlap:

Phase I: Sponsors initially conduct clinical trials in a limited population to test the product candidate for safety, dose tolerance, absorption, metabolism, distribution and excretion in healthy humans or, on occasion, in patients, such as cancer patients.

Phase II: Sponsors conduct clinical trials generally in a limited patient population to identify possible adverse effects and safety risks, to determine the efficacy of the product for specific targeted indications and to determine dose tolerance and optimal dosage. Sponsors may conduct multiple Phase II clinical trials to obtain information prior to beginning larger and more extensive Phase III clinical trials.

Phase III: These include expanded controlled and uncontrolled trials, including pivotal clinical trials. When Phase II evaluations suggest the effectiveness of a dose range of the product and acceptability of such product's safety profile, sponsors undertake Phase III clinical trials in larger patient populations to obtain additional information needed to evaluate the overall benefit and risk balance of the drug and to provide an adequate basis to develop labeling.

In addition, sponsors may conduct Phase IV clinical trials after the FDA approves a drug. In some cases, the FDA may condition approval of an NDA for a product candidate on the sponsor's agreement to conduct additional clinical trials to further assess the drug's safety or effectiveness after NDA approval. Such post approval trials are typically referred to as Phase IV clinical trials.

Sponsors submit the results of product development, preclinical studies and clinical trials to the FDA as part of an NDA. NDAs must also contain extensive manufacturing information and proposed labeling. Upon receipt, the FDA initially reviews the NDA to determine whether it is sufficiently complete to initiate a substantive review. If the FDA identifies deficiencies that would preclude substantive review, the FDA will refuse to accept the NDA and will inform the sponsor of the deficiencies that must be corrected prior to resubmission. If the FDA accepts the submission for substantive review, the FDA typically reviews the NDA in accordance with established time frames. Under the Prescription Drug User Fee Act, or PDUFA, the FDA agrees to specific goals for NDA review time through a two-tiered classification system, Priority Review and Standard Review. For a Priority Review application, the FDA aims to complete the initial review cycle in six months. Standard Review applies to all applications that are not eligible for Priority Review. The FDA aims to complete Standard Review NDAs within a ten-month timeframe. We anticipate that the FDA will grant our product candidates a Standard Review. Review processes often extend significantly beyond anticipated completion dates due to FDA requests for additional information or clarification,

difficulties scheduling an advisory committee meeting or FDA workload issues. The FDA may refer the application to an advisory committee for review, evaluation and recommendation as to the application's approval. The recommendations of an advisory committee do not bind the FDA, but the FDA generally follows such recommendations.

Table of Contents

If an NDA does not satisfy applicable regulatory criteria, the FDA may deny approval of an NDA or may require, among other things, additional clinical data or an additional pivotal Phase III clinical trial. Even if such data are submitted, the FDA may ultimately decide that the NDA does not satisfy the criteria for approval. Data from clinical trials are not always conclusive and the FDA may interpret data differently than we do. The FDA could also require a risk evaluation and mitigation strategy, or REMS, plan to mitigate risks, which could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. The FDA also may condition approval on, among other things, changes to proposed labeling, a commitment to conduct one or more post-market studies or clinical trials and the correction of identified manufacturing deficiencies, including the development of adequate controls and specifications.

After approval, the NDA sponsor must comply with comprehensive requirements governing, among other things, manufacturing, marketing activities, distribution, annual reporting and adverse event reporting. If new safety issues are identified following approval, the FDA can require the NDA sponsor to revise the approved labeling to reflect the new safety information; conduct post-market studies or clinical trials to assess the new safety information; and implement a REMS program to mitigate newly-identified risks. In addition, if after approval the FDA determines that the product does not meet applicable regulatory requirements or poses unacceptable safety risks, the FDA may take other regulatory actions, including requesting a product recall or initiating suspension or withdrawal of the NDA approval.

Drugs may be marketed only for approved indications and in accordance with the provisions of the approved label. Further, if we modify a drug, including any changes in indications, labeling or manufacturing processes or facilities, the FDA may require us to submit and obtain FDA approval of a new or supplemental NDA, which may require us to develop additional data or conduct additional preclinical studies and clinical trials.

Under PDUFA, NDA applicants must pay significant NDA user fees upon submission. In addition, manufacturers of approved prescription drug products must pay annual establishment and product user fees.

Section 505(b)(2) New Drug Applications

As an alternate path to FDA approval, particularly for modifications to drug products previously approved by the FDA, an applicant may submit an NDA under Section 505(b)(2) of the FDCA. Section 505(b)(2) was enacted as part of the Drug Price Competition and Patent Term Restoration Act of 1984, also known as the Hatch-Waxman Act, and permits the submission of an NDA where at least some of the information required for approval comes from clinical trials not conducted by or for the applicant and for which the applicant has not obtained a right of reference. The FDA interprets Section 505(b)(2) of the FDCA to permit the applicant to rely upon the FDA's previous findings of safety and effectiveness for an approved product. The FDA may also require companies to perform additional clinical trials or measurements to support any change from the previously approved product. The FDA may then approve the new product candidate for all or some of the label indications for which the referenced product has been approved, as well as for any new indication sought by the Section 505(b)(2) applicant.

To the extent that a Section 505(b)(2) NDA relies on clinical trials conducted for a previously approved drug product or the FDA's prior findings of safety and effectiveness for a previously approved drug product, the 505(b)(2) applicant must submit patent certifications in its 505(b)(2) application with respect to any patents listed for the approved product on which the application relies in the FDA's publication, *Approved Drug Products with Therapeutic Equivalence Evaluations*, commonly referred to as the Orange Book. Specifically, the applicant must certify for each listed patent that (1) the required patent information has not been filed; (2) the listed patent has expired; (3) the listed patent has not expired, but will expire on a particular date and approval is not sought until after patent expiration; or (4) the listed patent is invalid, unenforceable or will not be infringed by the proposed new product. A certification that the new product will not infringe the previously approved product's listed patent or that such patent is invalid or

unenforceable is known as a Paragraph IV certification. If the applicant does not challenge one or more listed patents through a Paragraph IV certification, the FDA will not approve the Section 505(b)(2) NDA application until all the unchallenged listed patents claiming the referenced product have expired. Further, the FDA will also not accept or approve, as applicable, a

Table of Contents

Section 505(b)(2) NDA application until any non-patent exclusivity, such as exclusivity for obtaining approval of a New Chemical Entity, listed in the Orange Book for the referenced product, has expired.

If the 505(b)(2) NDA applicant has provided a Paragraph IV certification to the FDA, the applicant must also send notice of the Paragraph IV certification to the owner of the referenced NDA for the previously approved product and relevant patent holders within 20 days after the 505(b)(2) NDA has been accepted for submission by the FDA. The NDA and patent holders may then initiate a patent infringement suit against the 505(b)(2) applicant. Under the FDCA, the filing of a patent infringement lawsuit within 45 days of receipt of the notification regarding a Paragraph IV certification automatically prevents the FDA from approving the Section 505(b)(2) NDA for 30 months, or until a court deems the patent unenforceable, invalid or not infringed, whichever is earlier. Moreover, in cases where a 505(b)(2) application containing a Paragraph IV certification is submitted during a previously approved drug's five year exclusivity period, the 30-month period is automatically extended to prevent approval of the 505(b)(2) application until the date that is seven and one-half years after approval of the previously approved reference product. The court also has the ability to shorten or lengthen either the 30 month or the seven and one-half year period if either party is found not to be reasonably cooperating in expediting the litigation. Thus, the Section 505(b)(2) applicant may invest a significant amount of time and expense in the development of its product only to be subject to significant delay and patent litigation before its product may be commercialized. Alternatively, if the NDA applicant or relevant patent holder does not file a patent infringement lawsuit within the specified 45 day period, the 30 month stay will not prevent approval of the 505(b)(2) application.

Notwithstanding the approval of many products by the FDA pursuant to Section 505(b)(2), over the last few years, some pharmaceutical companies and others have objected to the FDA's interpretation of Section 505(b)(2). If the FDA changes its interpretation of Section 505(b)(2), or if the FDA's interpretation is successfully challenged in court, this could delay or even prevent the FDA from approving any Section 505(b)(2) NDA that we submit.

In the NDA submissions for our product candidates, we intend to follow the development and approval pathway permitted under the FDCA that we believe will maximize the commercial opportunities for these product candidates.

International Regulation

In addition to regulations in the U.S., we will be subject to a variety of foreign regulations governing clinical trials and commercial sales and distribution of any future products. Whether or not we obtain FDA approval for a product, we must obtain approval by the comparable regulatory authorities of foreign countries before we can commence clinical trials or marketing of the product in those countries. The approval process varies from country to country, and the time may be longer or shorter than that required for FDA approval. The requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from country to country.

For example, under European Union, or EU, regulatory systems, sponsors may submit marketing authorizations either under a centralized or mutual recognition procedure. Under the centralized procedure, a single application to the European Medicines Agency, or the EMEA, leads to an approval granted by the European Commission which permits the marketing of a product throughout the EU. The centralized procedure is mandatory for certain classes of medicinal products, but optional for others. For example, all medicinal products developed by certain biotechnological means, and those developed for cancer and other specified diseases and disorders including neurodegenerative disorders, must be authorized via the centralized procedure. The national procedure is used for products that are not required to be authorized by the centralized procedure. Under the national procedure, an application for a marketing authorization is submitted to the competent authority of one member state of the EU. The holders of a national marketing authorization may submit further applications to the competent authorities of the remaining member states via either the decentralized or mutual recognition procedure. The decentralized procedure enables applicants to submit an identical application to the competent authorities of all member states where approval is sought at the same time as the

first application, while under the mutual recognition procedure, products are authorized initially in one member state, and other member states where approval is sought are then requested to recognize the

Table of Contents

original authorization based upon an assessment report prepared by the original authorizing competent authority. Both the decentralized and mutual recognition procedures should take no longer than 90 days, but if one member state makes an objection, which under the legislation can only be based on a possible risk to human health, the application will be automatically referred to the Committee for Medicinal Products for Human Use, or the CHMP, of the EMEA. If a referral for arbitration is made, the procedure is suspended. However, member states that have already approved the application may, at the request of the applicant, authorize the product in question without waiting for the result of the arbitration. Such authorizations will be without prejudice to the outcome of the arbitration. For all other concerned member states, the opinion of the CHMP, which is binding, could support or reject the objection or alternatively could reach a compromise position acceptable to all EU countries concerned. The arbitration procedure may take an additional year before a final decision is reached and may require the delivery of additional data.

As with FDA approval we may not be able to secure regulatory approvals in Europe in a timely manner, if at all. Additionally, as in the U.S., post-approval regulatory requirements, such as those regarding product manufacture, marketing, or distribution, would apply to any product that is approved in Europe, and failure to comply with such obligations could have a material adverse effect on our ability to successfully commercialize any product.

The conduct of clinical trials in the EU is governed by the European Clinical Trials Directive (2001/20/EC), which was implemented in May 2004. This directive governs how regulatory bodies in member states control clinical trials. No clinical trial may be started without a clinical trial authorization granted by the national competent authority and favorable ethics approval. Accordingly, there is a marked degree of change and uncertainty both in the regulation of clinical trials and in respect of marketing authorizations which face us for our products in Europe.

In addition to regulations in Europe and the U.S., we will be subject to a variety of foreign regulations governing clinical trials and commercial distribution of any future products.

Third Party Payor Coverage and Reimbursement

Although none of our product candidates have been commercialized for any indication, if the FDA approves these products for marketing, commercial success of our product candidates will depend, in part, upon the availability of coverage and reimbursement from third party payors at the federal, state and private levels. Government payor programs, including Medicare and Medicaid, private health care insurance companies and managed care plans have attempted to control costs by limiting coverage and the amount of reimbursement for particular procedures or drug treatments. The United States Congress and state legislatures from time to time propose and adopt initiatives aimed at cost containment, which could impact our ability to sell our products profitably.

For example, in March 2010, President Obama signed into law the Patient Protection and Affordable Care Act and the associated reconciliation bill, which we refer to collectively as the Health Care Reform Law, a sweeping law intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for healthcare and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms. Effective October 1, 2010, the Health Care Reform Law revises the definition of average manufacturer price for reporting purposes, which could increase the amount of Medicaid drug rebates to states once the provision is effective. Further, beginning in 2011, the new law imposes a significant annual fee on companies that manufacture or import branded prescription drug products. Substantial new provisions affecting compliance have also been enacted, which may require us to modify our business practices with healthcare practitioners. We will not know the full effects of the Health Care Reform Law until applicable federal and state agencies issue regulations or guidance under the new law. Although it is too early to determine the effect of the Health Care Reform Law, the new law appears likely to continue the pressure on pharmaceutical pricing, especially under the Medicare program, and may also increase our regulatory burdens and operating costs. Moreover, in the coming years, additional changes could be made to governmental healthcare

programs that could significantly impact the success of our products.

Table of Contents

The cost of pharmaceuticals continues to generate substantial governmental and third party payor interest. We expect that the pharmaceutical industry will experience pricing pressures due to the trend toward managed healthcare, the increasing influence of managed care organizations and additional legislative proposals. Our results of operations could be adversely affected by current and future healthcare reforms.

Some third party payors also require pre-approval of coverage for new or innovative devices or drug therapies before they will reimburse healthcare providers that use such therapies. While we cannot predict whether any proposed cost-containment measures will be adopted or otherwise implemented in the future, the announcement or adoption of these proposals could have a material adverse effect on our ability to obtain adequate prices for our product candidates and operate profitably.

Manufacturing Requirements

We and our third party manufacturers must comply with applicable FDA regulations relating to FDA's cGMP regulations. The cGMP regulations include requirements relating to organization of personnel, buildings and facilities, equipment, control of components and drug product containers and closures, production and process controls, packaging and labeling controls, holding and distribution, laboratory controls, records and reports, and returned or salvaged products. The manufacturing facilities for our products must meet cGMP requirements to the satisfaction of the FDA pursuant to a pre-approval inspection before we can use them to manufacture our products. We and our third party manufacturers are also subject to periodic inspections of facilities by the FDA and other authorities, including procedures and operations used in the testing and manufacture of our products to assess our compliance with applicable regulations. Failure to comply with statutory and regulatory requirements subjects a manufacturer to possible legal or regulatory action, including warning letters, the seizure or recall of products, injunctions, consent decrees placing significant restrictions on or suspending manufacturing operations and civil and criminal penalties. Adverse experiences with the product must be reported to the FDA and could result in the imposition of market restrictions through labeling changes or in product removal. Product approvals may be withdrawn if compliance with regulatory requirements is not maintained or if problems concerning safety or efficacy of the product occur following approval.

Other Regulatory Requirements

With respect to post-market product advertising and promotion, the FDA imposes a number of complex regulations on entities that advertise and promote pharmaceuticals, which include, among other things, standards for direct-to-consumer advertising, off-label promotion, industry-sponsored scientific and educational activities and promotional activities involving the Internet. The FDA has very broad enforcement authority under the FDCA, and failure to abide by these regulations can result in penalties, including the issuance of a warning letter directing entities to correct deviations from FDA standards, a requirement that future advertising and promotional materials be pre-cleared by the FDA, civil money penalties and state and federal civil and criminal investigations and prosecutions.

We are also subject to various laws and regulations regarding laboratory practices, the experimental use of animals and the use and disposal of hazardous or potentially hazardous substances in connection with our research. In each of these areas, as above, government agencies have broad regulatory and enforcement powers, including the ability to levy fines and civil penalties.

In addition, drug manufacturers also are subject to federal and state requirements and restrictions concerning interactions with physicians and other healthcare professionals, internal compliance programs, and transparency reporting requirements, including, for example, reporting of physician payments and other transfers of value, reporting of physician ownership or investment interests, reporting of marketing expenditures and clinical trial registration and reporting of clinical trial results on the publicly available clinical trial databank maintained by the National Institutes

of Health at www.ClinicalTrials.gov.

Legal Proceedings

We are not currently a party to any legal proceeding.

Table of Contents

Employees

As of June 30, 2010, we employed 22 full-time employees, of which 15 were engaged in research and development and clinical trials and seven were engaged in administration, finance, marketing and business development. None of our employees are represented by a labor union and we consider our employee relations to be good.

Facilities

Our corporate headquarters are located in Conshohocken, Pennsylvania, where we occupy approximately 11,075 square feet of office space. Our lease term expires March 31, 2013.

Table of Contents**MANAGEMENT****Executive Officers, Directors and Key Employee**

The following table sets forth information regarding our executive officers, directors and key employee as of June 30, 2010:

Name	Age	Position
<i>Executive Officers and Directors</i>		
Jane H. Hollingsworth	52	Chief Executive Officer and Director
Terri B. Sebree	52	President
Keith A. Goldan	39	Vice President and Chief Financial Officer
Gerald W. McLaughlin	42	Vice President Commercial Operations
Ezra H. Felker	41	Vice President Business Development
Wayne P. Yetter ⁽¹⁾	64	Director
Michael Cola ⁽³⁾⁽⁴⁾	51	Director
Jeanne Cunicelli ⁽²⁾⁽⁴⁾	43	Director
Michael C. Diem, MD ⁽²⁾⁽⁴⁾	41	Director
Richard S. Kollender ⁽²⁾⁽³⁾	40	Director
Gary J. Kurtzman, MD ⁽³⁾	55	Director
Robert P. Roche, Jr. ⁽⁵⁾	54	Director
<i>Key Employee</i>		
Mark W. Pierce, MD, PhD	61	Vice President and Chief Scientific Officer

(1) Chairman of the board of directors.

(2) To be appointed as a member of the audit committee upon the closing of this offering.

(3) To be appointed as a member of the compensation committee upon the closing of this offering.

(4) To be appointed as a member of the nominating and corporate governance committee upon the closing of this offering.

(5) Appointed as a director effective as of July 19, 2010.

Jane H. Hollingsworth is one of our founders and has served as a director and our Chief Executive Officer since January 2005. Prior to founding our company, Ms. Hollingsworth co-founded and served as Executive Vice President, Secretary and General Counsel of Auxilium Pharmaceuticals, Inc., or Auxilium, a specialty pharmaceutical company. Prior to co-founding Auxilium, Ms. Hollingsworth served as Vice President, Secretary and General Counsel of IBAH, Inc., or IBAH, a multinational contract research organization. Earlier in her career, Ms. Hollingsworth practiced law at the law firm of Montgomery, McCracken, Walker & Rhoads. Ms. Hollingsworth holds a BA from Gettysburg College and a JD from the Villanova University School of Law. Ms. Hollingsworth's legal background and widespread experience in the pharmaceutical industry provide significant expertise that she uses to advise our board of directors in evaluating regulatory, financial and other matters, which we believe makes her a valuable member of our board.

Terri B. Sebree is one of our founders and has served as our President since February 2005. Prior to founding our company, Ms. Sebree served as Senior Vice President, Development of Auxilium. Prior to joining Auxilium, Ms. Sebree served as Executive Vice President, U.S. Operations at IBAH. Prior to that, Ms. Sebree served in a variety of management roles with Abbott Laboratories for over nine years. Ms. Sebree holds a BS from Texas A&M University.

Keith A. Goldan, CPA has served as our Vice President and Chief Financial Officer since November 2008. Previously, Mr. Goldan served as Chief Financial Officer of PuriCore plc, a medical technology company listed on the London Stock Exchange, from October 2004 through October 2008. Mr. Goldan also served as a member of PuriCore's board of directors. Prior to that, Mr. Goldan served as Vice President and

Table of Contents

Chief Financial Officer of Biosyn, Inc., a specialty pharmaceutical company, and in a variety of roles with ViroPharma Incorporated, Century Capital Associates, a specialty consulting firm with a focus on capital strategy for healthcare clients, and the Healthcare & Life Sciences Practice of KPMG LLP. Mr. Goldan holds a BA from the Robert H. Smith School of Business at the University of Maryland and an MBA from The Wharton School at the University of Pennsylvania.

Gerald W. McLaughlin has served as our Vice President Commercial Operations since September 2007. Previously, Mr. McLaughlin served in a variety of roles at Endo Pharmaceuticals, a specialty pharmaceutical company, including Senior Director, Strategic Marketing from January 2007 through August 2007, Regional Sales Director from July 2005 through December 2006, Group Marketing Director, Pain Products from November 2002 through June 2005 and Marketing Director. Prior to that, Mr. McLaughlin served in a variety of marketing and sales roles at Merck for 11 years. Mr. McLaughlin holds a BA from Dickinson College and an MBA from Villanova University.

Ezra H. Felker has served as our Vice President Business Development since January 2006. Previously, Mr. Felker served as an Entrepreneur in Residence at BioAdvance, an initiative of the Commonwealth of Pennsylvania committed to funding early stage life sciences companies, from June 2005 through December 2005. Prior to that, Mr. Felker served as Associate Vice President, BTG Ventures at BTG International Inc., Manager, Business Development at Icagen, Inc. and as a protein chemist at Hybritech and Biosite Diagnostics. Mr. Felker holds a BS from the University of California, San Diego and an MBA from the Weatherhead School of Management at Case Western Reserve University.

Wayne P. Yetter has served as the chairman of our board of directors since July 2010. Mr. Yetter has served as Chief Executive Officer of ProActive for Patients Media, Inc., a physician-to-patient messaging services company, since October 2009. From September 2005 through August 2008, Mr. Yetter served as Chief Executive Officer of Verispan, LLC, a healthcare information company serving pharmaceutical and biotechnology companies. From November 2004 through September 2005, Mr. Yetter served as President and Chief Executive Officer of Odyssey Pharmaceuticals, Inc., a specialty pharmaceutical company. Mr. Yetter also founded Biopharm Advisory, LLC, a healthcare industry advisory firm, and served as its President from July 2003 through September 2005. From September 2003 through November 2004, Mr. Yetter also served on the Advisory Board of Alterity Partners, a mergers and acquisition advisory firm. Prior to that, Mr. Yetter served as Chairman and Chief Executive Officer of Synavant, Inc., a customer relationship management and marketing services company focused on the pharmaceutical industry, Chief Operating Officer of IMS, President and Chief Executive Officer of Novartis Pharmaceutical Corp., the U.S. division of Novartis AG, and founding President and Chief Executive Officer of Astra Merck Inc. Mr. Yetter also held a variety of management and marketing roles at Merck and Pfizer. Mr. Yetter currently serves on the board of directors of EpiCept Corp., InfuSystem Holdings, Inc. and Strategic Diagnostics Inc., each a publicly traded company. Previously, Mr. Yetter also served on the board of directors of the following publicly traded companies: Noven Pharmaceuticals, Inc., where he was Chairman, Synvista Therapeutics, Inc., Transkaryotic Therapies, Inc., where he was Chairman, Maxim Pharmaceuticals, Inc., and Matria Healthcare, Inc., where he was lead independent director. Mr. Yetter also served on the Executive Committee of PhRMA, the pharmaceutical industry association, from 1997 through 1999. Mr. Yetter holds a BA in biology from Wilkes University and an MBA from Bryant University. Mr. Yetter has more than 40 years of pharmaceutical industry experience, including roles in management, marketing, operations and information services. This extensive experience makes him a valuable asset to our board of directors. Furthermore, Mr. Yetter's leadership abilities and experiences make him particularly well qualified to be our chairman.

Michael Cola has served as one of our directors since December 2006 and served as chairman of our board of directors from December 2006 through July 2010. Mr. Cola has served as President, Specialty Pharmaceuticals at Shire plc, or Shire, a global specialty pharmaceutical company, since June 2005. Prior to joining Shire, Mr. Cola served as Group President of Safeguard Scientifics, Inc., or Safeguard, a holding company for growth stage technology and life sciences companies, and in a variety of positions at AstraZeneca and AstraMerck, including Vice

President, Global Clinical Operations. Mr. Cola has also served on the board of directors of Clariant, Inc., a publicly traded company. Mr. Cola holds a BA in biology and physics from Ursinus College and an MS in biomedical science from Drexel University. Mr. Cola has more than 20 years of international pharmaceutical industry experience. Mr. Cola's extensive expertise in pharmaceutical product

Table of Contents

development, commercialization and marketing, as well as his involvement in the development of public pharmaceutical companies, have provided him with a broad perspective on operations and make him a valuable asset to our board of directors.

Jeanne Cunicelli has served as one of our directors since August 2006. Ms. Cunicelli has served as an Investment Partner at Bay City Capital LLC, a venture capital firm with a focus on the life sciences industry, since January 2004. Ms. Cunicelli joined Bay City Capital LLC as a Consultant in 1997. She is a member of the board of trustees, the Chairman of the investment committee and serves on the finance committee of the University of San Francisco. Ms. Cunicelli holds a BS in cognitive psychology from Carnegie Mellon University and an MBA from the University of San Francisco. Ms. Cunicelli's position with Bay City Capital has resulted in her gaining valuable experience in evaluating the financial performance and operations of companies in our industry, which we believe makes her a valuable member of our board of directors.

Michael C. Diem, MD has served as one of our directors since July 2008. Dr. Diem has served as a Partner at SR One, Limited, or SR One, the venture capital subsidiary of GlaxoSmithKline, since September 2008. Dr. Diem joined SR One as an associate in July 2005. Prior to joining SR One, Dr. Diem was an associate at Frantz Medical Ventures and practiced as an attending physician. Dr. Diem holds a BA in biological sciences from Rutgers University, an MD from the University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School and an MBA from the Weatherhead School of Management at Case Western Reserve University, completed his residency training at Duke University Medical Center and is an alumnus of the Kauffman Fellows Program. Dr. Diem's scientific, medical and pharmaceutical background, as well as his investment experience, enable him to advise our board of directors on a wide range of strategic and other financial transactions, which makes him a valuable member of our board.

Richard S. Kollender has served as one of our directors since December 2007. Mr. Kollender has served as a Partner at Quaker BioVentures, a venture capital firm with a focus on the life sciences industry, since October 2005. Mr. Kollender joined Quaker BioVentures as a Principal in 2003. Prior to joining Quaker BioVentures, Mr. Kollender served in a variety of sales, marketing and worldwide business development positions at GlaxoSmithKline, as an Investment Manager at SR One and as a Certified Public Accountant with KPMG LLP, with a significant emphasis on the healthcare and emerging businesses sectors. Mr. Kollender holds a BA from Franklin and Marshall College in Accounting and Business Administration and an MBA from the University of Chicago. Mr. Kollender's strong accounting background, pharmaceutical commercial experience and financial experience in the healthcare and emerging business sectors qualify him to serve as a member of our board of directors.

Gary J. Kurtzman, MD has served as one of our directors since August 2006. Dr. Kurtzman has served as a Vice President at Safeguard since June 2006. Dr. Kurtzman is also a Managing Director in Safeguard's Life Science Group. Previously, he served in a variety of roles at BioAdvance from July 2002 until June 2006, with his most recent position being Managing Director and Chief Operating Officer. Dr. Kurtzman currently serves on the board of directors of Tengion, Inc., a publicly traded biotechnology company, and is a lecturer in health care management at The Wharton School at the University of Pennsylvania, where he teaches bioentrepreneurship. Dr. Kurtzman holds a BS from Stanford University, an MD from Washington University and completed post-doctoral training at the National Heart, Lung and Blood Institute and Stanford University. Dr. Kurtzman's strong background of service on the boards of directors of numerous biotechnology companies and his position as a managing director in an organization that provides capital to biotechnology companies make him a valuable member of our board of directors who will assist in the development of our growth strategy and business plans.

Robert P. Roche, Jr. has served as one of our directors since July 2010. Mr. Roche has served as principal of Robert Roche Associates, LLC, a consulting firm focusing on the pharmaceutical and biotechnology industries, since February 2010. From January 1995 through February 2010, Mr. Roche served as the head of all commercial operations at Cephalon, Inc., or Cephalon, a global biopharmaceutical company. His most recent position at Cephalon,

held from February 2005 through February 2010, was Executive Vice President, Worldwide Pharmaceutical Operations, in which capacity he oversaw several new product launches. Prior to that, Mr. Roche served in a variety of sales and marketing positions at SmithKline Beecham, a global pharmaceutical company. Mr. Roche has also served on the board of directors of LifeCell Corporation, a

Table of Contents

publicly traded medical device company focusing on tissue repair products. Mr. Roche holds a BA in Spanish and history from Colgate University and an MBA from The Wharton School at the University of Pennsylvania. With more than 25 years of international pharmaceutical industry experience, Mr. Roche's extensive expertise in pharmaceutical product development, commercialization and marketing, his substantial experience in launching pharmaceutical products and his involvement in the development of public pharmaceutical companies make him a valuable member of our board of directors.

Mark W. Pierce, MD, PhD has served as our Vice President and Chief Scientific Officer since October 2006. Previously, Dr. Pierce served as a Senior Vice President of Pfizer's Global Research and Development from July 2002 through October 2005. Dr. Pierce holds a BA and a PhD from Northwestern University and an MD from Northwestern University Medical School. He received his postgraduate training in internal medicine at the Peter Bent Brigham Hospital and Massachusetts General Hospital in Boston. Dr. Pierce was previously an Instructor in Medicine and Assistant Professor of Medicine at Harvard Medical School.

Board Composition and Election of Directors

Our board of directors currently consists of nine directors. In accordance with our restated certificate of incorporation, to be in effect upon the closing of this offering, our board of directors may establish from time to time by resolution the authorized number of directors. Upon the closing of this offering, nine directors will be authorized to serve on our board of directors. All of our directors are elected annually for a one-year term until the next annual meeting of stockholders.

Under applicable NASDAQ Marketplace Rules, a director will only qualify as an independent director if, in the opinion of our board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director.

Our board of directors has determined that each of our directors, with the exception of Ms. Hollingsworth, is an independent director as defined under Rule 5605(a)(2) of The NASDAQ Marketplace Rules. In making such determination, the board of directors considered the relationships that each such non-employee director has with our company and all other facts and circumstances that the board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director. In considering the independence of the directors listed above, our board of directors considered the association of our directors with the holders of more than five percent of our common stock. There are no family relationships among any of our directors or executive officers.

Board Leadership Structure and Board's Role in Risk Oversight

The positions of our chairman of the board and chief executive officer are separated. Separating these positions allows our chief executive officer to focus on our day-to-day business, while allowing the chairman of the board to lead the board of directors in its fundamental role of providing advice to and independent oversight of management. Our board of directors recognizes the time, effort and energy that the chief executive officer must devote to her position in the current business environment, as well as the commitment required to serve as our chairman, particularly as the board of directors' oversight responsibilities continue to grow. Our board of directors also believes that this structure ensures a greater role for the independent directors in the oversight of our company and active participation of the independent directors in setting agendas and establishing priorities and procedures for the work of our board of directors. This leadership structure also is preferred by a significant number of our stockholders. Our board of directors believes its administration of its risk oversight function has not affected its leadership structure.

Although our bylaws that will be in effect upon the closing of this offering will not require that our chairman and chief executive officer positions be separate, our board of directors believes that having separate positions is the appropriate leadership structure for us at this time and demonstrates our commitment to good corporate governance.

Risk is inherent with every business, and how well a business manages risk can ultimately determine its success. We face a number of risks, including those described under Risk Factors. Our board of directors is actively involved in oversight of risks that could affect us. This oversight is conducted primarily through committees of the board of directors, as disclosed in the descriptions of each of the committees below, but the

Table of Contents

full board of directors has retained responsibility for general oversight of risks. Our board of directors satisfies this responsibility through full reports by each committee chair regarding the committee's considerations and actions, as well as through regular reports directly from officers responsible for oversight of particular risks within our company. Our board of directors believes that full and open communication between management and the board of directors is essential for effective risk management and oversight.

Board Committees

Our board of directors has an audit committee and a compensation committee and, as of the closing of this offering, will have a nominating and corporate governance committee. Upon the closing of this offering, each of these committees will operate under a charter that has been approved by our board of directors.

Audit Committee

Upon the closing of this offering, our audit committee will consist of Ms. Cunicelli, Dr. Diem and Mr. Kollender, and Mr. Kollender will serve as the chair of our audit committee. Upon the closing of this offering, the responsibilities of the audit committee will include, among other things:

- Retaining, appointing, setting compensation of and evaluating the performance, independence, internal quality control procedures and qualifications of our independent auditors;
- Reviewing and approving in advance the engagement of our independent auditors to perform audit services and any permissible non-audit services;
- Reviewing with our independent auditor the planning and staffing of the audit, including the rotation requirements and other independence rules;
- Reviewing our annual and quarterly financial statements and reports, discussing the statements and reports with our independent auditors and management and recommending to the board whether to include the financial statements in the annual reports filed with the SEC;
- Reviewing with our independent auditors and management significant issues that arise regarding accounting principles and financial statement presentation, matters concerning the scope, adequacy and effectiveness of our financial controls, effects of alternative GAAP methods on our financial statements and any correspondence or reports that raise issues with or could have a material effect on our financial statements;
- Reviewing any earnings announcements and other financial information and earnings guidance provided to analysts, the investment community and ratings agencies;
- Establishing procedures for the receipt, retention and treatment of complaints received by us, and the anonymous submission by employees of concerns, regarding financial controls, accounting or auditing matters;
- Preparing the audit committee report required by the rules of the SEC to be included in our annual proxy statement;
- Reviewing the reports of the chief executive officer and chief financial officer during their certification process for our Form 10-K and Form 10-Q filings with the SEC;

Reviewing and, if acceptable, approving any related person transactions and establishing and reviewing our code of business conduct and ethics;

Reviewing our risk assessment, risk management, financial disclosure and accounting policies on a periodic basis;

Reviewing and assessing the adequacy of our audit committee charter on an annual basis;

Overseeing our disclosure controls and procedures, including internal controls over our financial reporting, and reviewing and discussing our management's annual report on the effectiveness of our internal control over financial reporting;

Table of Contents

Reviewing and assessing, on a periodic basis, our systems to monitor compliance with applicable laws and regulations and meeting periodically with our chief compliance officer, general counsel and other senior personnel responsible for the our compliance with such legal and regulatory requirements;

Setting policies for our hiring of employees or former employees of our independent auditors; and

Making regular reports to our board regarding the audit committee s activities, including reviewing any issues realized during the audit committee s performance of its responsibilities.

Our board of directors has determined that each of the directors serving on our audit committee is independent within the meaning of The NASDAQ Marketplace Rules and Rule 10A-3 under the Securities Exchange Act of 1934, as amended, or the Exchange Act. In addition, our board of directors has determined that Mr. Kollender qualifies as an audit committee financial expert within the meaning of SEC regulations and The NASDAQ Marketplace Rules. In making this determination, our board has considered the formal education and nature and scope of his previous experience, coupled with past and present service on various audit committees. Both our independent auditors and management periodically meet privately with our audit committee.

Compensation Committee

Upon the closing of this offering, our compensation committee will consist of Mr. Cola, Mr. Kollender and Dr. Kurtzman, and Dr. Kurtzman will serve as the chair of our compensation committee. Upon the closing of this offering, the responsibilities of the compensation committee will include, among other things:

Establishing corporate goals and objectives relevant to compensation of our executive officers and evaluating the performance of such executive officers in light of those goals and objectives;

In the case of our chief executive officer, recommending to the independent members of our board of directors the appropriate compensation package for her and, in the case of our other executive officers, determining the appropriate compensation for them;

Reviewing and approving for our executive officers the other terms of their employment, including employment agreements, severance arrangements and change in control protections;

Periodically reviewing and evaluating for continuing appropriateness, any existing employee agreements and change in control agreements with our executive officers;

Adopting and recommending to our board of directors the approval of a comprehensive statement of executive compensation policy, strategy and principles and periodically reviewing and evaluating the effectiveness of such policy in achieving expected benefits to us;

Reviewing our compensation plans and approving and recommending to our board of directors for its approval the initial adoption or material modification of such plans;

Implementing and administering our incentive compensation plans;

Overseeing and reviewing the operation of our plans subject to the Employee Retirement Income Security Act of 1974, as amended;

Evaluating and recommending to our board of directors the appropriate level of director compensation and ensuring that any payments to directors other than in their capacity as directors are fully and properly disclosed;

Selecting peer groups of companies to be used for determining competitive compensation packages;

Reviewing and discussing with management our disclosures under the Compensation Discussion and Analysis section of our annual proxy statement to be filed with the SEC and recommending to our board of directors whether to include such section in our annual proxy statement;

Preparing the compensation committee report that the SEC requires in our annual proxy statement; and

Reviewing and assessing the adequacy of our compensation committee charter on an annual basis.

Table of Contents

Nominating and Corporate Governance Committee

Upon the closing of this offering, our nominating and corporate governance committee will consist of Mr. Cola, Ms. Cunicelli and Dr. Diem, and Mr. Cola will serve as the chair of our nominating and corporate governance committee. Upon the closing of this offering, the responsibilities of the nominating and corporate governance committee will include, among other things:

Identifying, reviewing, evaluating, nominating and recommending candidates to serve on our board of directors and each of its committees;

Considering and recommending to our board of directors the appropriate size and composition of our board of directors;

Evaluating the performance of and, when determined appropriate, approving current members of our board of directors standing for reelection;

Reviewing and recommending to our board of directors an appropriate course of action upon the resignation of current board members or any planned expansion of the board;

Recommending to our board of directors the responsibilities and structure of each committee of the board;

Establishing and assessing our corporate governance guidelines and recommending any amendments to such guidelines to our board of directors;

Reviewing and assessing the adequacy of our restated certificate of incorporation, bylaws and charters of any committee of our board of directors and recommending any necessary modifications to such documents to our board of directors;

Reviewing all stockholder proposals submitted to us and recommending to our board of directors appropriate action on each such proposal; and

Reviewing and assessing the adequacy of our nominating and corporate governance committee charter on an annual basis.

Compensation Committee Interlocks and Insider Participation

No member of our compensation committee has ever been an officer or employee of ours. None of our officers currently serves, or has served during the last completed year, on our compensation committee or the board of directors of any other entity that has one or more of its officers serving as a member of our board of directors or compensation committee. Prior to establishing our compensation committee, our full board of directors made decisions relating to compensation of our officers.

Table of Contents

EXECUTIVE COMPENSATION

Compensation Discussion and Analysis

In this Compensation Discussion and Analysis, we address the compensation determinations and the rationale for those determinations relating to our chief executive officer, our chief financial officer and our next three most highly compensated executive officers who were serving as executive officers as of December 31, 2009. We refer to these executive officers collectively as our named executive officers. Our named executive officers for the year ended December 31, 2009 are:

Jane H. Hollingsworth, Chief Executive Officer;

Terri B. Sebree, President;

Keith A. Goldan, Vice President and Chief Financial Officer;

Gerald W. McLaughlin, Vice President Commercial Operations; and

Ezra H. Felker, Vice President Business Development.

Objectives and Philosophy of Executive Compensation

The primary objective of our executive compensation program, as established by the compensation committee of our board of directors, is to attract, retain and motivate individuals who possess knowledge, experience and skills that we believe are important to the advancement of our business of developing and commercializing branded therapeutics for diseases of the central nervous system, including neurological and psychiatric disorders.

Specifically, our compensation programs are designed to:

Attract and retain individuals with superior ability and managerial experience;

Align executive officers' incentives with our corporate strategies, business objectives and the long-term interests of our stockholders; and

Increase the incentive to achieve key strategic performance measures by linking incentive award opportunities to the achievement of performance objectives in these areas and by providing a portion of total compensation opportunities for executive officers in the form of direct ownership in our company.

To achieve these objectives, we seek to provide a competitive compensation package that ties a substantial portion of the executive's overall compensation to both our company objectives and the executive's individual performance. Base salary increases and annual performance bonuses are tied to our company and individual performance in relation to competitive market conditions. Equity awards are primarily used to promote long-term stockholder value and employee retention through the use of multi-year vesting schedules that provide an incentive to the executive to remain in the employ of the company through the end of the vesting period in order to share in any increase in the value of our company over time.

Determination of Executive Compensation

Our compensation committee oversees our compensation and benefit plans and policies, administers our equity incentive plans and reviews and approves annually all compensation decisions relating to all executive officers, except our chief executive officer.

When determining our executive compensation policies, reviewing the performance of our executive officers and establishing compensation levels and programs, our compensation committee considers recommendations from Ms. Hollingsworth, our chief executive officer, regarding the compensation for executive officers other than herself. Ms. Hollingsworth does not participate in determining the amount of her own compensation. With the exception of our chief executive officer, our compensation committee has the final authority regarding the overall compensation structure for our executive officers. In the case of Ms. Hollingsworth, our compensation committee evaluates Ms. Hollingsworth's performance, with significant input and recommendations from the chairman of our

Table of Contents

compensation committee, and recommends compensation levels to the board of directors, which sets her compensation.

Prior to this offering, we have not used a peer group to engage in benchmarking in determining our total compensation or the primary components of compensation for our executive officers. In reviewing compensation levels for 2009 and the period prior to this offering in 2010, our compensation committee reviewed survey information for private life sciences companies published in CompStudy, an annual survey of compensation for executives at more than 700 private life sciences and technology companies conducted by J. Robert Scott in partnership with Ernst & Young LLP. As a survey participant, we had access to survey data, which we used to provide information to our compensation committee in setting compensation.

In connection with this offering, in May 2010, our compensation committee engaged Radford, a division of Aon Corporation, or Radford, an independent compensation consultant, to perform a review of our overall executive compensation, benchmark such compensation in relation to other comparable publicly traded companies with which we may compete for executive talent and provide recommendations to ensure that our executive compensation program continues to enable us to attract and retain qualified executives through competitive compensation packages.

The primary source of the Radford report was a peer group of similarly situated pharmaceutical and biotechnology companies that had product candidates in late-stage clinical trials or a newly marketed drug or product. Radford established our peer group by considering all pharmaceutical and biotechnology companies and then further refining the list of companies based on the following four factors:

Employee size;

Revenue;

Market value; and

Stage of development.

Radford focused on companies with approximately 15 to 120 employees, revenue of approximately \$10 million to \$85 million, market value of approximately \$100 million to \$500 million and product candidates in Phase III trials, a recently filed NDA or recently commercialized products. Based on these variables, Radford benchmarked our executive compensation against a group of the following 22 publicly traded companies:

Acura Pharmaceuticals, Inc.

Affymax, Inc.

Alexza Pharmaceuticals, Inc.

Biocryst Pharmaceuticals, Inc.

Biodel Inc.

Cadence Pharmaceuticals, Inc.

Cypress Biosciences, Inc.

Durect Corporation

Dyax Corp.

GTx, Inc.

Ligand Pharmaceuticals Inc.

MAP Pharmaceuticals Inc.

Maxygen, Inc.

Medivation, Inc.

NPS Pharmaceuticals, Inc.

Orexigen, Inc.

Osiris Therapeutics, Inc.

Pain Therapeutics, Inc.

Pozen Inc.

Savient Pharmaceuticals, Inc.

Vanda Inc.

Vical Incorporated

In the future, we expect that our compensation committee will continue to engage Radford, or another independent compensation consultant, to provide additional guidelines for executive compensation and conduct further competitive benchmarking against a peer group of publicly traded companies.

Table of Contents***Elements of Executive Compensation***

The compensation for our executive officers consists of the following principal elements:

- Base salary;
- Annual performance bonuses;
- Long-term incentives in the form of equity grants; and
- Change in control and severance benefits.

We do not have a formal or informal policy or target for allocating compensation between long-term and short-term compensation, cash and non-cash compensation, or among different forms of non-cash compensation. Our compensation committee has balanced our need to preserve cash with the expectations of those we hope to recruit and retain as executives. In the future, we may adjust the mix of cash and non-cash compensation if required by competitive market conditions for attracting and retaining skilled personnel.

We have set salary levels and the size of annual performance bonuses based on individual performance and by comparison to market survey data in CompStudy with respect to 2009 compensation and the Radford report with respect to 2010 compensation following the effective date of the registration statement for this offering. Equity grant awards have been our primary form of long-term incentive and retention benefits, which have the benefit of not requiring a cash outlay from our company. We use awards of equity as a significant component of the initial compensation incentive when we hire executive officers. We have generally made equity grants to existing executives at times when we have raised capital from new investors, and not as a part of annual compensation. Consistent with that approach, we have made option grants to our executive officers that will be effective upon the effective date of the registration statement for this offering. Our equity awards to executive officers generally have vesting schedules over a four-year period, which we believe results in a retention incentive for our executives. If an executive voluntarily leaves our employ before the completion of the vesting period, then that executive would not receive any benefit from the non-vested portion of his or her award.

Base Salary

We generally establish base salaries for our executive officers based on the scope of their responsibilities and the amount and type of work experience prior to joining us, taking into account competitive market compensation paid by other companies to individuals in similar positions. In general, our compensation committee reviews base salaries annually based on these factors and adjust salaries to reflect current market levels. We may also adjust base salaries from time to time during the year in connection with promotions or in light of changes in market conditions. For 2009 and for the period in 2010 prior to this offering, the base salaries for our named executive officers are set forth in the table below:

Named Executive Officer	2009 Base Salary	2010 Base Salary
Jane H. Hollingsworth	\$ 304,756	\$ 320,000
Terri B. Sebree	280,000	293,000
Keith A. Goldan	275,000	280,000
Gerald W. McLaughlin	206,876	216,500

Ezra H. Felker

196,833

216,500

In setting salary levels for 2009 and for the period in 2010 prior to this offering, our compensation committee had a goal of setting target compensation for our named executive officers at levels the committee believed to be competitive for companies of similar size and stage of development operating in the life sciences industry. To accomplish this, our compensation committee reviewed CompStudy survey information for private therapeutics companies with 20 to 40 employees, revenue of up to \$40 million and between two to five rounds of outside investor financing. Salary levels for our named executive officers for 2010 were increased, based on the position and industry experience of the individual, to provide them generally with a level of total compensation in the mid-range for comparable positions. Salaries for 2009 were increased on the

Table of Contents

same basis, from 2008 salaries of \$295,880 for Ms. Hollingsworth; \$262,500 for Ms. Sebree; \$200,850 for Mr. McLaughlin; and \$191,100 for Mr. Felker. Mr. Goldan's 2008 salary of \$275,000 was negotiated at the time he was hired in November 2008 and remained at the same level for 2009.

Based on the Radford report and the fact that the base salaries for our executive officers generally fell below the 25th percentile of our peer group, our compensation committee and in the case of Ms. Hollingsworth, our board of directors, approved the following annual base salaries for our executive officers, which will be effective upon this offering: \$370,000 for Ms. Hollingsworth; \$305,000 for Ms. Sebree; \$285,000 for Mr. Goldan; \$265,000 for Mr. McLaughlin; and \$225,000 for Mr. Felker.

With the exception of Ms. Sebree, these salary increases were designed to align the total cash compensation levels of our executive officers with total cash compensation levels within the 25th to 50th percentile of our peer group, as recommended by Radford. Ms. Sebree's total cash compensation level was structured to align her with the 75th percentile of our peer group, based on the recommendation by Radford, to reflect her additional responsibilities as the President.

Annual Performance Bonus Compensation

We pay annual performance bonuses to reward the performance achievements of our named executive officers. We generally pay these bonuses in cash, and an executive must be employed by us on the pay date to receive a bonus. Each named executive officer is assigned a targeted maximum payout, expressed as a percentage of his or her base salary for the year, which varies by their role with us. Each named executive officer's annual performance bonus is generally determined based on our achievement of company objectives and the executive officer's individual performance goals. For 2009, our chief executive officer's annual performance bonus was determined solely based on attainment of company objectives. Our board of directors and compensation committee determined that this was appropriate given our chief executive officer's responsibility for the overall direction and success of our business. Our company objectives generally relate to the achievement of preestablished performance goals based on company-wide business objectives. Individual performance goals are based on either key operational objectives, functional objectives within the executive's area of responsibility, or a combination of operational and functional objectives. If our company's or an executive officer's performance does not meet one or more of the objectives established for the year, then the portion of annual performance bonus attributable to that objective will not be paid.

The performance objectives are generally objectively determinable and measurable and their outcomes are uncertain at the time established. When we set the 2009 objectives, we considered them to be ambitious, but attainable and designed to cause annual performance bonus payments to reflect meaningful performance requirements.

Our compensation committee authorizes annual performance bonuses to the executive officers, other than the chief executive officer, in amounts that are commensurate with each executive officer's targeted maximum annual performance bonus and the result achieved by the end of the year. Prior to this offering, our compensation committee has authorized our chief executive officer to establish individual performance goals for each other executive officer on a basis consistent with compensation objectives for the year. At the end of the year, our chief executive officer assesses the achievement of the objectively determinable individual performance goals of the executive officers other than herself, reports her findings to our compensation committee and submits recommendations for annual performance bonus payouts for the approval of our compensation committee. Our compensation committee reviews our chief executive officer's analysis and, in its sole discretion, may accept or reject, in whole or in part, the recommendations of Ms. Hollingsworth.

For our chief executive officer, our compensation committee assesses the achievement of the objectively determinable performance goals and reports its findings and annual performance bonus recommendations to our board of directors.

In its sole discretion, our board of directors may accept or reject, in whole or in part, the annual performance bonus recommendations of our compensation committee. For 2009, our board of directors reviewed and accepted our compensation committee's annual performance bonus recommendation with respect to Ms. Hollingsworth.

Table of Contents

As discussed above, Ms. Hollingsworth's 2009 annual performance bonus award payout was based 100% on the achievement of our company objectives. The 2009 annual performance bonuses for each of the other named executive officers was based 75% on the achievement of company objectives and 25% on the achievement of individual performance objectives. Our compensation committee establishes our company objectives for each fiscal year prior to the end of the first quarter of the year and determines a separate weighting for each of our company objectives. For 2009, our company objectives, including their weightings, are set forth below:

Successfully complete our pivotal Phase III clinical trial for Zelrix (weighted 50%);

Facilitate a significant transaction involving our company or Zelrix (weighted 25%); and

Raise capital in 2009 through new investors (weighted 25%).

For 2009, we completed our pivotal Phase III clinical trial for Zelrix but did not achieve the other two company objectives. As a result, in March 2010, Ms. Hollingsworth was paid 50% of her 2009 targeted annual performance bonus. All other named executive officers were allocated 50% of the company objective portion of their 2009 annual performance bonus award payout.

As discussed above, our chief executive officer established individual performance objectives for each other executive officer at approximately the same time as the company objectives were established. Each component of the individual performance objectives was assigned equal weight for 2009.

Ms. Sebree's 2009 individual performance objectives consisted entirely of nine operational objectives related to:

Completing pivotal Phase III clinical trial for Zelrix (three of three objectives achieved);

Establishing commercial manufacturing arrangements for Zelrix (zero of one objective achieved);

Preparing an NDA for Zelrix (zero of two objectives achieved); and

Implementing preclinical studies for NP201 (two of three objectives achieved).

Mr. Goldan's 2009 individual performance objectives consisted of the same nine operational objectives as

Ms. Sebree and ten functional objectives related to:

Developing and implementing financing arrangements (zero of three objectives achieved);

Improving financial controls, financial management, budgeting and forecasting (two of three objectives achieved); and

Managing information technology, facilities, human resources and treasury functions (four of four objectives achieved).

Mr. McLaughlin's 2009 individual performance objectives consisted entirely of ten functional objectives related to:

Developing plans for commercial launch of Zelrix (two of two objectives achieved);

Developing marketing plans for Zelrix, including packaging and market research (two of two objectives achieved);

Establishing support for Zelrix with key opinion leaders (two of two objectives achieved);

Engaging in efforts to identify new product candidates and partnering opportunities (two of two objectives achieved); and

Conducting search and selection of an advertising agency and publication agency for Zelrix launch (zero of two objectives achieved).

Mr. Felker's 2009 individual performance objectives consisted of the same nine operational objectives as

Table of Contents

Ms. Sebree and nine functional objectives related to:

Engaging in efforts to identify partnering opportunities (one of two objectives achieved);

Establishing manufacturing relationships for Zelrix (one of two objectives achieved);

Developing strategies for continued enhancement of migraine patch design (two of three objectives achieved); and

Creating strategies for development and partnering of NP201 (zero of two objectives achieved).

The compensation committee assessed the performance of these named executive officers against the individual performance metrics and, applying equal weighting to each executive's objectives, determined they achieved the following percentages for individual performance: Ms. Sebree, five of nine objectives achieved, or 56%, Mr. Goldan, 11 of 19 objectives achieved, or 58%, Mr. McLaughlin, eight of ten objectives achieved, or 80%, and Mr. Felker, nine of 18 objectives achieved, or 50%.

Taking into account the relative weighting of the corporate and individual performance objectives, with 75% for corporate objectives and 25% for individual performance objectives for the named executive officers other than Ms. Hollingsworth, and the achievement of these objectives on a percentage basis as described above, we paid each named executive officer the following 2009 annual performance bonus in 2010:

Named Executive Officer	2009 Annual Performance Bonus			
	Maximum as % of 2009 Base Salary	Maximum Bonus Amount	% of Maximum Achieved	Actual Bonus Payout
Jane H. Hollingsworth	40%	\$ 121,902	50%	\$ 60,952
Terri B. Sebree	30	84,000	52	43,680
Keith A. Goldan	30	82,500	52	42,900
Gerald W. McLaughlin	25	51,719	58	29,997
Ezra H. Felker	25	49,208	50	24,604

For 2010, the compensation committee has set the following maximum annual performance bonus amounts:

Named Executive Officer	2010 Annual Performance Bonus	
	Maximum as % of 2010 Base Salary	Maximum Bonus Amount
Jane H. Hollingsworth	50%	\$ 185,000

Terri B. Sebree	35	106,750
Keith A. Goldan	35	99,750
Gerald W. McLaughlin	30	79,500
Ezra H. Felker	30	67,500

The compensation committee established the maximum annual performance bonus amounts for 2010 based on the total cash compensation levels recommended by Radford based on its analysis of our peer group. With the exception of Ms. Sebree, whose total cash compensation level was set at the 75th percentile of our peer group, the maximum annual performance bonus amounts were designed to align the total cash compensation levels of our executive officers with total cash compensation levels within the 25th to 50th percentile of our peer group. Based on this analysis, all executive officers' maximum annual performance bonus amounts increased in 2010 on account of the salary increases described above. The maximum bonus as a percentage of 2010 salary increased for Ms. Hollingsworth and Mr. Goldan on account of the total cash compensation levels recommended by Radford.

Long-Term Incentive Compensation

We believe that long-term performance is enhanced through stock and equity awards that reward our executives for maximizing stockholder value over time and that align the interests of our employees and management with those of our stockholders. Our compensation committee believes that the use of equity

Table of Contents

awards offers an effective way to align the interests of our executive officers with our stockholders because equity ownership ties a significant portion of an executive's potential compensation to the market price of our stock. Prior to this offering, we have used stock options and, to a very limited degree, restricted stock, as the primary long-term equity incentive vehicle. Our last grants of restricted stock were in 2006 when the fair value of our stock was lower and the awards had less income tax consequence to the executive upon vesting. Since then, we have made option grants to executive officers who are newly hired, and generally made stock option grants to existing executives at times when we have raised capital from new investors.

We expect to continue to use equity awards as a long-term incentive vehicle, with vesting based on multi-year periods and performance-based objectives. These equity awards may be in the form of stock options, restricted stock or restricted stock units. We believe that:

The opportunity to receive future equity awards provides an incentive for executives to deliver superior performance;

The vesting period of equity awards helps retain executives;

Equity awards are inherently performance-based because the value our executives realize from the equity award depends on the success of our business and any increase in the market price of our common stock following this offering; and

Equity awards help to provide a balance to the overall executive compensation program as base salary and our annual performance bonus program focus on short-term compensation, while equity grants reward executives for increases in stockholder value over the longer term.

Our 2005 Equity Compensation Plan, or our 2005 Plan, authorizes us to grant a wide variety of equity awards, including stock options, restricted stock, restricted stock units, stock appreciation rights, or SARs, and other stock-based awards to our employees and executive officers as well as non-employee members of our board of directors and certain consultants and advisors to the company. Our 2005 Plan is described in more detail under Employee Benefit Plans.

We have not generally used equity compensation in our annual performance bonus program. We have typically paid these bonuses in cash. To preserve cash, however, our compensation committee did not pay cash bonuses for 2008. The compensation committee instead granted fully vested stock options to our named executive officers in January 2009. The compensation committee determined the grant amounts based on a subjective analysis of the performance and the relative position of each executive in the management team, and not based on specific performance objectives for 2008. Our named executive officers received fully vested stock options to purchase the following number of shares of common stock: Ms. Hollingsworth 8,359 shares; Ms. Sebree 7,486 shares; Mr. McLaughlin 5,988 shares; and Mr. Felker 4,491 shares. Mr. Goldan did not receive an option grant because he had recently joined us in November 2008, at which time he received a new hire option grant.

Our board of directors has adopted a new 2010 Omnibus Incentive Compensation Plan, or our 2010 Plan, which was approved by our stockholders on July 19, 2010, and is described in more detail under Employee Benefit Plans. At the effective date of the registration statement for this offering, our 2010 Plan will replace our existing 2005 Plan for use in granting future equity awards, including stock options, restricted stock, restricted stock units, SARs and other stock-based awards, including equity grants intended to qualify as qualified performance-based compensation under Section 162(m) of the Code, to our executive officers and our other employees, as well as non-employee members of our board of directors and our consultants and advisors. Our 2010 Plan also provides for the grant of cash awards to our named executive officers that are considered qualified performance-based compensation under Section 162(m) of

the Code.

Our board of directors has delegated oversight of the administration of our equity compensation plans to our compensation committee. We do not have any equity security ownership guidelines or requirements for our executive officers. We do not have any program, plan or obligation that requires us to grant equity compensation on specified dates. The compensation committee considers and approves equity awards to

Table of Contents

executive officers based upon a review of competitive compensation data, its assessment of individual performance, a review of each executive's existing long-term incentives and retention considerations.

The exercise price of stock options is the fair value of our common stock as determined by our board of directors or compensation committee on the date of grant. Our stock options typically vest over a four-year period, either monthly over 48 months or with 25% vesting 12 months after the vesting commencement date and the remainder vesting monthly or quarterly thereafter over a three-year period, subject to continued employment or association with us, and generally expire ten years after the date of grant. Incentive stock options also include terms necessary to assure compliance with the applicable provision of the Code.

Because we have not been a public company, we have not made equity grants in connection with the release or withholding of material non-public information. However, we intend to implement policies to ensure that equity awards are granted at fair market value on the date that the grants are approved.

In connection with its peer group analysis for executive compensation, Radford also benchmarked our executive officer long-term incentive compensation to recommend equity grants in connection with the closing of this offering. Radford recommended that we establish a tiered structure of long-term incentive compensation in the form of equity grants that are market driven and tie a significant portion of equity to our performance. Based on its analysis, Radford recommended we align our executive officers' long-term incentive compensation with the 75th percentile of our peer group. Based on this recommendation, our compensation committee and board of directors approved grants of stock options under our 2010 Plan to all of our executive officers that will be effective upon the effective date of the registration statement for this offering, and are contingent upon the effectiveness of the registration statement. The vesting of these option grants will be both time-based and performance-based, and these option grants will have an exercise price equal to the initial public offering price. The time-based option grants will vest based upon continued employment or service over a four-year period with 25% vesting on the first anniversary of the date of grant and the balance vesting in 12 equal quarterly installments thereafter. The performance-based option grants will vest based upon the attainment of performance criteria tied to FDA approval of the NDA for Zelrix. Specifically, the performance-based options will vest as follows:

If we receive NDA approval for Zelrix before October 1, 2011: one-third of each option will vest upon NDA approval, one-third of each option will vest on the first anniversary of NDA approval, and one-third of each option will vest on the second anniversary of NDA approval;

If we receive NDA approval for Zelrix on or after October 1, 2011, but before January 1, 2012, two-thirds of each option will vest as follows: one-third of each portion of such option vests upon NDA approval, one-third of each portion of such option will vest on the first anniversary of NDA approval, and one-third of each portion of such option will vest on the second anniversary of NDA approval;

If we receive NDA approval for Zelrix on or after January 1, 2012, but before April 1, 2012, one-third of each option will vest as follows: one-third of each portion of such option vests upon NDA approval, one-third of each portion of such option will vest on the first anniversary of NDA approval, and one-third of each portion of such option will vest on the second anniversary of NDA approval;

If we do not receive NDA approval for Zelrix before April 1, 2012, any unvested options will be forfeited;

If a change of control (as defined in our 2010 Plan) occurs before April 1, 2012 and the NDA for Zelrix has not been approved, any unvested performance-based options set forth in the table below shall accelerate and become exercisable as follows: 32,439 for Ms. Hollingsworth, 14,972 for Ms. Sebree, 11,229 for Messrs. Goldan and McLaughlin and 4,990 for Mr. Felker;

If a change of control occurs after the NDA for Zelrix is approved, our 2010 Plan and each executive officer's employment agreement shall govern the acceleration and vesting of any unvested options; and

If, after the NDA for Zelrix is approved, we terminate an executive officer's employment without cause, or if an executive officer terminates employment for good reason, all outstanding options held by the executive based on the schedule set forth above will accelerate and vest.

Table of Contents

The number of shares of common stock underlying the options granted to our executive officers in connection with this offering are set forth in the table below, such grants to be effective upon the effective date of the registration statement for this offering:

Name	Time-Based Options	Performance- Based Options
Jane H. Hollingsworth	49,907	48,659
Terri B. Sebree	22,458	22,458
Keith A. Goldan	16,219	16,843
Gerald W. McLaughlin	16,219	16,843
Ezra H. Felker	8,109	7,486

Employment Agreements and Severance and Change of Control Benefits

We have employment agreements with all of our executive officers, each of which will be effective upon the effective date of the registration statement for this offering. These employment agreements were designed to be part of a competitive compensation package and keep our executive officers focused on our business goals and objectives. The employment agreements provide for specific base salaries, incentive compensation and severance and change of control benefits. The employment agreements provide for payments and other benefits if we terminate an executive officer's employment without cause, or if an executive officer terminates employment for good reason, either before or after a change of control. In general terms, a change of control occurs if:

A person, entity or affiliated group acquires more than 50% of our then outstanding voting securities;

We merge into another entity, unless the holders of our voting securities immediately prior to the merger have at least 50% of the combined voting power of the securities in the merged entity or its parent;

We sell or dispose of all or substantially all of our assets;

We are liquidated or dissolved; or

A majority of the members of our board of directors is replaced during any 12-month period or less by directors whose appointment or election is not endorsed by a majority of the incumbent directors.

The terms of the employment agreements for our executive officers are described in more detail under [Potential Payments Upon Termination or Change of Control](#).

Our practice in the case of change of control benefits for our executive officers, other than accelerated vesting of equity awards, has been to structure these as "double trigger" benefits. In other words, a change of control by itself does not generally trigger benefits. Rather, cash benefits are paid only if the employment of the executive is terminated in specified circumstances during a determined period before or after a change of control. We believe "double trigger" cash benefits maximize stockholder value because they prevent an unintended windfall to executives in the event of a friendly change of control, while still providing executives appropriate incentives to cooperate in negotiating any change of control in which they believe they may lose their jobs.

Other Benefits

Executive officers are eligible to participate in all of our employee benefit plans, such as medical, dental, vision, group life, short and long-term disability, and our 401(k) plan, in each case on the same basis as other employees, subject to applicable laws. We also provide vacation and other paid holidays to all employees, including our executive officers.

Table of Contents***Tax Considerations***

As discussed above, our compensation committee considers the tax and accounting treatment associated with the cash and equity awards it makes, although these considerations are not dispositive. Section 162(m) of the Code places a limit of \$1.0 million per person on the amount of compensation that we may deduct in any year with respect to each of our named executive officers. There is an exemption from the \$1.0 million limitation for performance-based compensation that meets certain requirements. Since we are a privately held corporation, Section 162(m) does not currently apply to our compensation. Under the transition rules, in general, compensation paid under a plan that existed while we are private is exempt from the \$1.0 million deduction limit until the third annual meeting of our stockholders following the closing of this offering. We will take these transition rules into account when awarding compensation to our named executive officers. Following this offering, grants of options or SARs under our 2010 Plan are intended to qualify for the exemption. Grants of restricted shares or stock units that are made in the future under our 2010 Plan may qualify for the exemption if vesting is contingent on the attainment of objectives based on the performance criteria set forth in the plan and if certain other requirements are satisfied. Grants of restricted shares or stock units that vest solely on the basis of service cannot qualify for the exemption. In addition, the terms of our 2010 Plan contemplate that cash performance bonuses made in the future may qualify for the exemption. To maintain flexibility in compensating officers in a manner designed to promote varying company goals, our compensation committee has not adopted a policy requiring all compensation to be deductible. Our compensation committee may approve compensation or changes to plans, programs or awards that may cause the compensation or awards to exceed the limitation under Section 162(m) if it determines that action is appropriate and in our best interests.

Summary Compensation Table

The following table sets forth information for the year ended December 31, 2009 regarding compensation awarded to or earned by our named executive officers.

Name and Principal Position	Year	Salary (\$)	Option Awards ⁽¹⁾ (\$)	Non-Equity Incentive	All Other Compensation ⁽³⁾ (\$)	Total (\$)
				Plan Compensation ⁽²⁾ (\$)		
Jane H. Hollingsworth Chief Executive Officer	2009	\$ 304,483	\$ 11,377	\$ 60,952	\$ 8,705	\$ 385,517
Terri B. Sebree President	2009	279,462	10,188	43,680	8,705	342,035
Keith A. Goldan Vice President and Chief Financial Officer	2009	275,000		42,900	8,718	326,618
Gerald W. McLaughlin Vice President Commercial Operations	2009	206,690	8,150	29,997	7,555	252,392
Ezra H. Felker Vice President Business Development	2009	196,657	6,113	24,604	7,221	234,595

(1)

Amounts reflect the grant date fair value of option awards granted in 2009 in accordance with FASB ASC Topic 718, or ASC 718, formerly Statement of Financial Accounting Standards No. 123R. Our named executive officers will only realize compensation to the extent the market price of our common stock is greater than the exercise price of such stock options. For information regarding assumptions underlying the valuation of equity awards, see note 8 to our financial statements appearing at the end of this prospectus.

- (2) Amounts represent annual performance bonus compensation earned for the year ended December 31, 2009 based on pre-established performance objectives. Annual performance bonus compensation for 2009 was

Table of Contents

paid in 2010. Our annual performance bonus program is described in more detail under Compensation Discussion and Analysis Annual Performance Bonus Compensation.

- (3) Amounts include the premium amounts paid by us for life insurance and long-term disability insurance coverage for the named executive officer, plus the employer matching contributions made on behalf of the named executive officer to our 401(k) plan.

Grants of Plan-Based Awards

The following table sets forth information regarding grants of plan-based awards to our named executive officers during the year ended December 31, 2009. Annual performance bonus amounts paid in respect of the non-equity plan incentive awards for 2009 are reported in the Summary Compensation Table under the Non-Equity Incentive Plan Compensation column.

Name	Grant Date	Estimated Future Payouts Under Non-Equity Incentive Plan Awards ⁽¹⁾			All Other Option Awards: Number of Securities Underlying Options ⁽²⁾ (#)	Exercise or Base Price of Option Awards ⁽³⁾ (\$/Sh)	Grant Date Fair Value of Stock and Option Awards ⁽⁴⁾ (\$)
		Threshold (\$)	Target (\$)	Maximum (\$)			
Jane H. Hollingsworth	1/29/2009				8,359	\$ 1.92	\$ 11,377
	1/29/2009			\$ 121,902			
Terri B. Sebree	1/29/2009				7,486	1.92	10,188
	1/29/2009			84,000			
Keith A. Goldan	1/29/2009			82,500			
Gerald W. McLaughlin	1/29/2009				5,988	1.92	8,150
	1/29/2009			51,719			
Ezra H. Felker	1/29/2009				4,491	1.92	6,113
	1/29/2009			49,208			

(1) Amounts represent maximum payouts for 2009 annual performance bonuses determined by our compensation committee for each named executive officer as a percentage of 2009 base salary.

(2) Amounts represent 2008 annual incentive compensation that was paid in January 2009 in the form of fully vested stock options.

(3) Amounts represent the fair value of our common stock as determined in good faith by our compensation committee on the date of the grant.

(4) Amounts reflect the aggregate grant date fair value of the awards calculated in accordance with ASC 718.

Table of Contents**Outstanding Equity Awards at December 31, 2009**

The following table sets forth information regarding outstanding equity awards granted to our named executive officers that were outstanding as of December 31, 2009. Equity awards made to our named executive officers are described in more detail under Compensation Discussion and Analysis Long-Term Incentive Compensation.

Name	Option Awards				Stock Awards	
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#) ⁽¹⁾	Market Value of Shares or Units of Stock That Have Not Vested (\$) ⁽²⁾
Jane H. Hollingsworth	12,476		\$ 0.80	7/19/2015		
	83,068	151,478 ⁽³⁾	1.92	9/11/2018		
	8,359		1.92	1/29/2019		
					3,119	\$ 6,000
Terri B. Sebree	12,476		0.80	7/19/2015		
	46,578	84,937 ⁽³⁾	1.92	9/11/2018		
	7,486		1.92	1/29/2019		
					3,119	6,000
Keith A. Goldan	24,926	74,778 ⁽⁴⁾	1.92	12/15/2018		
Gerald W. McLaughlin	11,353	11,353 ⁽⁵⁾	1.44	9/20/2017		
	20,206	36,847 ⁽³⁾	1.92	9/11/2018		
	5,988		1.92	1/29/2019		
Ezra H. Felker	9,357	3,119 ⁽⁶⁾	0.96	1/2/2016		
	9,825	3,275 ⁽⁷⁾	1.44	10/12/2016		
	16,539	30,159 ⁽³⁾	1.92	9/11/2018		
	4,491		1.92	1/29/2019		
					1,871	3,600

(1) All restricted stock awards were granted on March 16, 2006 and vest based on the achievement of performance factors.

(2) The market value of each restricted stock award is based on the fair value of \$1.92 per share of common stock as of December 31, 2009, as determined in good faith by our compensation committee.

(3) Such stock option vests in equal monthly increments over the 48-month period following September 11, 2008.

- (4) Such stock option vested 25% on November 3, 2009 and the remainder vests in equal monthly increments over the 36-month period following November 3, 2009.
- (5) Such stock option vested 25% on each of September 20, 2007 and 2009 and vests 25% on each of September 20, 2010 and 2011.
- (6) Such stock option vested 25% on each of January 2, 2007, 2008, 2009 and 2010.
- (7) Such stock option vested 25% on each of October 12, 2007, 2008 and 2009 and vests 25% on October 12, 2010.

Option Exercises and Stock Vested

None of our named executive officers exercised stock options or had restricted stock vest during 2009. On April 27, 2009, Ms. Hollingsworth forfeited 47,157 shares of restricted stock and Ms. Sebree forfeited 14,596 shares of restricted stock pursuant to the performance-based vesting terms of their respective August 31, 2006 restricted stock grant agreements, which were not met. Equity awards made to the named

Table of Contents

executive officers are described in more detail under Compensation Discussion and Analysis Long-Term Incentive Compensation.

Potential Payments Upon Termination or Change of Control

Set forth below is a description of payments that we would be required to make to our executive officers in certain circumstances upon their employment termination, including termination in connection with a change of control. The information in this section does not include information relating to payments and benefits provided on a nondiscriminatory basis to salaried employees generally upon termination of employment.

We have employment agreements with all of our executive officers, each of which will be effective upon the effective date of the registration statement for this offering. These employment agreements provide for base salaries of \$370,000 for Ms. Hollingsworth, \$305,000 for Ms. Sebree, \$285,000 for Mr. Goldan, \$265,000 for Mr. McLaughlin and \$225,000 for Mr. Felker. The employment agreements also provide for incentive compensation in the form of both short-term incentives and long-term incentives. Information regarding incentive compensation is described in more detail under Compensation Discussion and Analysis Annual Performance Bonus Compensation and Compensation Discussion and Analysis Long-Term Incentive Compensation.

Under these employment agreements, if an executive officer's employment ends for any reason, we will pay such executive officer accrued compensation and benefits. In addition, upon a termination due to death or disability, all executive officers are entitled to receive a pro-rata annual bonus paid in accordance with our annual bonus plan. The employment agreements also provide for severance payments and other benefits if we terminate any executive officer's employment without cause, or if any executive officer terminates employment for good reason, either before or after a change of control. Upon a termination without cause or resignation for good reason at any time, including on or after a change of control, each executive officer is entitled to the following severance payments and benefits:

Cash severance payments equal to a multiple of the executive's annual base salary as of the last day of employment, paid in accordance with regular payroll over a specified period as follows: 1.5x base salary paid over 18 months for Ms. Hollingsworth, 1x base salary paid over 12 months for Ms. Sebree and 0.5x base salary paid over six months for Messrs. Goldan, McLaughlin and Felker;

A pro-rata annual bonus paid in accordance with our annual bonus plan;

Continued medical and dental coverage, for the executive and dependents, if applicable, at the same level in effect at the time of termination for a specified period, as follows: 18 months for Ms. Hollingsworth and 12 months for Ms. Sebree and for Messrs. Goldan, McLaughlin and Felker; and

Vesting of all outstanding equity awards that would have vested had the executive remained employed until the end of the calendar quarter of such termination; provided that performance based awards will accelerate and vest as described under Compensation Discussion and Analysis Long-Term Incentive Compensation.

Upon a termination without cause or resignation for good reason within the 90 days preceding a change of control or on or within the 12 months following a change of control, each executive officer is entitled to the following severance payments and benefits:

Cash severance payments equal to the sum of (1) a multiple of the executive's annual base salary as of the last day of employment; (2) pro-rata annual bonus; and (3) a multiple of the executive's target annual bonus in effect at the time of termination, paid in accordance with regular payroll over a specified period as follows: 1.5x base salary and target annual bonus for Ms. Hollingsworth and 1x base salary and target annual bonus for

Ms. Sebree and for Messrs. Goldan, McLaughlin and Felker;

Continued medical and dental coverage, for the executive and dependents, if applicable, at the same level in effect at the time of termination for a specified period, as follows: 18 months for Ms. Hollingsworth and 12 months for Ms. Sebree and for Messrs. Goldan, McLaughlin and Felker; and

Table of Contents

Immediate vesting of all outstanding equity awards held by the executive at the termination date; provided that performance based awards will accelerate and vest as described under Compensation Discussion and Analysis Long-Term Incentive Compensation.

For purposes of the employment agreements, cause generally means the executive s:

Engagement in conduct constituting a breach of fiduciary duty, gross negligence or willful misconduct relating to us or the performance of the executive s duties; provided that no act or failure to act shall be deemed willful unless done, or omitted to be done, by the executive not in good faith or without reasonable belief that such action or omission was in our best interest;

Substantial and continued failure to perform the executive s material duties in a satisfactory manner after written notice specifying the areas in which performance is unsatisfactory and, if subject to cure, the executive s failure to perform within 30 days after the notice;

Commission of any act of fraud;

Violation of any covenants or agreements in our favor regarding confidentiality, non-competition and/or non-solicitation; or

Conviction of a felony or a crime involving moral turpitude under the laws of the U.S. or any state or political subdivision thereof.

For purposes of the employment agreements, good reason shall generally be deemed to exist in the event of:

Prior to a change of control, or for all executive officers other than Ms. Hollingsworth, on or after a change of control, a material reduction of the executive officer s duties and responsibilities, which means the assignment to the executive officer of duties and responsibilities materially inconsistent with the executive s current duties and responsibilities;

For Ms. Hollingsworth only, on or after a change of control, a material reduction of the executive officer s duties and responsibilities, which means the failure of us or any successor to maintain such executive in an executive officer position with duties and responsibilities consistent with that of an executive officer;

A material reduction of base salary or target bonus opportunity;

Our material breach of the employment agreement;

Failure by an assignee to agree to be bound by the terms of the employment agreement; or

Relocation to a place of employment more than 50 miles from the executive officer s previous place of employment.

In general terms, under the employment agreements, a change of control occurs if:

A person, entity or affiliated group acquires more than 50% of our then outstanding voting securities;

We merge into another entity, unless the holders of our voting securities immediately prior to the merger have at least 50% of the combined voting power of the securities in the merged entity or its parent;

We sell or dispose of all or substantially all of our assets;

We are liquidated or dissolved; or

A majority of the members of our board of directors is replaced during any 12-month period or less by directors whose appointment or election is not endorsed by a majority of the incumbent directors.

The foregoing severance payments and benefits payable upon termination of employment to our executive officers are conditioned on the execution and nonrevocation of a standard written release of any and all claims. In addition, each executive officer is bound by restrictive covenants, which are conditions of the severance payments and benefits. Specifically, during the term of each executive's employment with us and for a period following termination of employment equal to the number of months each executive officer receives severance, each executive officer is bound by confidentiality and non-competition restrictive covenants.

Table of Contents

In the event any severance payments or benefits to our executive officers would constitute an excess parachute payment within the meaning of section 280G of the Code and be subject to the excise tax imposed by section 4999 of the Code, the affected executive officers will be entitled to the greater of, on a net after-tax basis including the excise tax: (1) the largest amount of the payment that would result in no portion of the payment or benefit being subject to the excise tax under section 4999 of the Code, or (2) the entire payment or benefit without any reduction to avoid the excise tax.

The payment amounts discussed above and set forth in the table below reflect the payments that would have been due to our executive officers had the termination or change of control event occurred on December 31, 2009 and had the executive officers' 2010 employment agreements, each of which will be effective upon the effective date of the registration statement for this offering, been in place as of that date.

Name	Benefit	Termination Without Cause or Resignation for Good Reason Other Than In Connection With	Change of Control ⁽¹⁾	Termination Without Cause or Resignation for Good Reason In Connection With	Death, Disability or Retirement ⁽²⁾
		a Change of Control		a Change of Control	
Jane H. Hollingsworth	Cash severance	\$ 615,952 ⁽³⁾		\$ 893,452 ⁽⁴⁾	\$ 60,952
	Option acceleration			0 ⁽⁵⁾	
	Restricted stock acceleration			6,000 ⁽⁶⁾	
	Health benefits	18,000 ⁽⁷⁾		18,000 ⁽⁷⁾	
Terri B. Sebree	Cash severance	348,680 ⁽⁸⁾		455,430 ⁽⁹⁾	43,680
	Option acceleration			0 ⁽¹⁰⁾	
	Restricted stock acceleration			6,000 ⁽¹¹⁾	
	Health benefits	12,000 ⁽¹²⁾		12,000 ⁽¹²⁾	
Keith A. Goldan	Cash severance	185,400 ⁽¹³⁾		427,650 ⁽¹⁴⁾	42,900
	Option acceleration			0 ⁽¹⁵⁾	
	Restricted stock acceleration				
	Health benefits	12,000 ⁽¹²⁾		12,000 ⁽¹²⁾	
Gerald W. McLaughlin	Cash severance	162,497 ⁽¹⁶⁾		374,497 ⁽¹⁷⁾	29,997
	Option acceleration			5,460 ⁽¹⁸⁾	
	Restricted stock acceleration				
	Health benefits	12,000 ⁽¹²⁾		12,000 ⁽¹²⁾	
Ezra H. Felker	Cash severance	137,104 ⁽¹⁹⁾		317,104 ⁽²⁰⁾	24,604
	Option acceleration			4,575 ⁽²¹⁾	

Restricted stock acceleration		
Health benefits	12,000 ₍₁₂₎	12,000 ₍₁₂₎

- (1) The amounts set forth in this table are based on the terms of the executive officers' 2010 employment agreements described above. However, upon a change of control, our 2010 Plan provides our compensation committee with the discretion to accelerate and vest all outstanding equity awards.
- (2) Upon a termination due to death or disability, all executive officers are entitled to receive a pro-rata annual bonus paid in accordance with our annual bonus plan. This amount represents the 2009 annual performance bonus earned by and paid to each executive.
- (3) This amount is equal to 18 months of base salary, such amount being \$555,000, plus the 2009 annual performance bonus earned by and paid to the executive, such amount being \$60,952. For purposes of the severance calculations for all executives we have used the new 2010 base salary and target bonus amounts.
- (4) This amount is equal to 18 months of base salary, such amount being \$555,000, plus the 2009 annual performance bonus earned by and paid to the executive, such amount being \$60,952, and 150% of target bonus, such amount being \$277,500.
- (5) This amount represents the value of unvested stock options to purchase an aggregate of 151,478 shares of common stock, based on the difference between the exercise price of the options, \$1.92 per share, and

Table of Contents

the fair market value of our common stock on December 31, 2009, \$1.92 per share. The actual value realized will vary depending on the date the options are exercised. As of December 31, 2009, the options had no value because the fair market value did not exceed the exercise price.

- (6) This amount represents the value of 3,119 shares of unvested restricted common stock, based on \$1.92 per share, the fair market value of our common stock on December 31, 2009.
- (7) This amount is equal to 18 months of continued health benefits assuming a monthly cost of \$1,000.
- (8) This amount is equal to 12 months of base salary, such amount being \$305,000, plus the 2009 annual performance bonus earned and paid to the executive, such amount being \$43,680.
- (9) This amount is equal to 12 months of base salary, such amount being \$305,000, plus the 2009 annual performance bonus earned and paid to the executive, such amount being \$43,680, and 100% of target bonus, such amount being \$106,750.
- (10) This amount represents the value of unvested stock options to purchase an aggregate of 84,937 shares of common stock, based on the difference between the exercise price of the options, \$1.92 per share, and the fair market value of our common stock on December 31, 2009, \$1.92 per share. The actual value realized will vary depending on the date the options are exercised. As of December 31, 2009 the options had no value because the fair market value did not exceed the exercise price.
- (11) This amount represents the value of 3,119 shares of unvested restricted common stock, based on \$1.92 per share, the fair market value of our common stock on December 31, 2009.
- (12) This amount is equal to 12 months of continued health benefits, assuming a monthly cost of \$1,000.
- (13) This amount is equal to six months of base salary, such amount being \$142,500, plus the 2009 annual performance bonus earned and paid to the executive, such amount being \$42,900.
- (14) This amount is equal to 12 months of base salary, such amount being \$285,000, plus the 2009 annual performance bonus earned and paid to the executive, such amount being \$42,900, and 100% of target bonus, such amount being \$99,750.
- (15) This amount represents the value of unvested stock options to purchase an aggregate of 74,778 shares of common stock, based on the difference between the exercise price of the options, \$1.92 per share, and the fair market value of our common stock on December 31, 2009, \$1.92 per share. The actual value realized will vary depending on the date the options are exercised. As of December 31, 2009, the options had no value because the fair market value did not exceed the exercise price.
- (16) This amount is equal to six months of base salary, such amount being \$132,500, plus the 2009 annual performance bonus earned and paid to the executive, such amount being \$29,997.
- (17) This amount is equal to 12 months of base salary, such amount being \$265,000, plus the 2009 annual performance bonus earned and paid to the executive, such amount being \$29,997, and 100% of target bonus, such amount being \$79,500.
- (18) This amount represents the value of unvested stock options to purchase 36,847 and 11,353 shares of common stock, based on the difference between the exercise price of the options, \$1.92 per share for the 36,847 shares

and \$1.44 per share for the 11,353 shares, and the fair market value of our common stock on December 31, 2009, \$1.92 per share. The actual value realized will vary depending on the date the options are exercised.

- (19) This amount is equal to six months of base salary, such amount being \$112,500, plus the 2009 annual performance bonus earned and paid to the executive, such amount being \$24,604.
- (20) This amount is equal to 12 months of base salary, such amount being \$225,000, plus the 2009 annual performance bonus earned and paid to the executive, such amount being \$24,604, and 100% of target bonus, such amount being \$67,500.
- (21) This amount represents the value of unvested stock options to purchase 30,159, 3,275 and 3,119 shares of common stock, based on the difference between the exercise price of the options, \$1.92 per share for the 30,159 shares, \$1.44 per share for the 3,275 shares and \$0.96 per share for the 3,119 shares, and the fair market value of our common stock on December 31, 2009, \$1.92 per share. The actual value realized will vary depending on the date the options are exercised.

Table of Contents

Pension Benefits

None of our named executive officers participate in or have account balances in qualified or non-qualified defined benefit plans sponsored by us. Our compensation committee may elect to adopt qualified or non-qualified benefit plans in the future if it determines that doing so is in our best interests.

Nonqualified Deferred Compensation

None of our named executive officers participate in or have account balances in nonqualified defined contribution plans or other nonqualified deferred compensation plans maintained by us. Our compensation committee may elect to provide our officers and other employees with non-qualified defined contribution or other nonqualified deferred compensation benefits in the future if it determines that doing so is in our best interests.

Employee Benefit Plans

2005 Plan and 2010 Plan

Our board of directors previously adopted our 2005 Plan, which was approved by stockholders effective as of July 19, 2005, to provide for the grant of incentive stock options, nonqualified stock options, stock awards, stock units, SARs and other equity-based awards to employees, certain consultants and advisors and non-employee members of the board.

On June 27, 2010, our board of directors adopted our 2010 Plan, which was approved by our stockholders on July 19, 2010. Our 2010 Plan will become effective immediately prior to the effective date of the registration statement for this offering. Our 2010 Plan provides for the grant of incentive stock options, nonqualified stock options, stock awards, stock units, performance units, SARs and other stock-based awards to employees, certain consultants and advisors and non-employee members of the board. Our 2010 Plan will also provide for the grant of equity awards intended to qualify as qualified performance-based compensation for purposes of Section 162(m) of the Code and for the payment of bonus awards in cash to selected executive employees that are also intended to so qualify.

As of the effective date of our 2010 Plan, our 2005 Plan will be merged with and into our 2010 Plan and no additional grants will be made thereafter under our 2005 Plan. Outstanding grants under our 2005 Plan will continue in effect according to their terms as in effect before our 2010 Plan merger, and the shares with respect to outstanding grants under our 2005 Plan will be issued or transferred under our 2010 Plan.

Except as provided in the description below with respect to the definition of a change of control under our 2005 Plan, the descriptions provided below regarding incentive stock options, nonqualified stock options, stock awards, stock units, SARs and other stock-based awards under our 2010 Plan are also applicable to the terms of such awards under our 2005 Plan. Our 2005 Plan does not provide for payment of performance units or cash bonus awards.

Under our 2005 Plan, a change of control occurs if:

A person, entity or affiliated group (with certain exceptions) acquires more than 50% of our then outstanding voting securities;

A transaction in which we merge into another entity is consummated unless the holders of our voting shares immediately prior to the merger have at least 50% of the combined voting power of the securities in the merged entity or its parent;

We sell or dispose of all or substantially all of our assets; or

We are liquidated or dissolved.

Table of Contents

2010 Plan

Introduction. The purpose of our 2010 Plan is to attract and retain employees, non-employee directors and consultants and advisors. Our 2010 Plan provides for the issuance of incentive stock options, nonqualified stock options, stock awards, stock units, performance units, SARs and other stock-based awards. Our 2010 Plan also provides for the issuance of annual bonus awards, intended to qualify as qualified performance-based compensation for purposes of Section 162(m) of the Code, to selected executive employees. Our 2010 Plan is intended to provide an incentive to participants to contribute to our economic success by aligning the economic interests of participants with those of our stockholders.

Administration. Our 2010 Plan will be administered by our compensation committee, and our compensation committee will determine all of the terms and conditions applicable to grants under our 2010 Plan. Our compensation committee will also determine who will receive grants under our 2010 Plan and the number of shares of common stock that will be subject to grants, except that grants to members of our compensation committee must be authorized by a disinterested majority of our board of directors.

Awards. Our 2010 Plan authorizes the issuance or transfer of up to 1,738,886 shares of common stock, which includes the number of shares that are subject to outstanding grants under our 2005 Plan and shares that remain available for issuance under our 2005 Plan. During the term of our 2010 Plan, the share reserve will automatically increase on the first trading day in January each calendar year, beginning in calendar year 2011, by an amount equal to the lesser of 5.0% of the total number of outstanding shares of common stock on the last trading day in December in the prior calendar year or 499,070 shares.

If any options or SARs, including options and SARs granted under our 2005 Plan, terminate, expire or are canceled, forfeited, exchanged or surrendered without having been exercised or if any stock awards, stock units or other stock-based awards, including awards granted under our 2005 Plan, are forfeited, terminated or otherwise not paid in full, the shares subject to such grants will again be available for purposes of our 2010 Plan. In addition, if any shares of our common stock are surrendered in payment of the exercise price of an option or stock appreciation right, the number of shares available for issuance under our 2010 Plan will be reduced only by the net number of shares actually issued upon exercise and not by the total number of shares under which such option or stock appreciation right is exercised. If shares of our common stock otherwise issuable under our 2010 Plan are withheld in satisfaction of the withholding taxes incurred in connection with the issuance, vesting or exercise of any grant or the issuance of our common stock, then the number of shares of our common stock available for issuance under our 2010 Plan shall be reduced by the net number of shares issued, vested or exercised under such grant. If any grants are paid in cash, and not in shares of our common stock, any shares of our common stock subject to such grants will also be available for future grants.

Our 2010 Plan also contains annual limits of 124,767 shares for all grants to each person participating in the 2010 Plan measured in shares of common stock and \$3,000,000 for all grants to each person participating in the 2010 Plan measured in cash dollars. Both limits are subject to adjustment as described in our 2010 Plan.

Adjustments. In connection with stock splits, stock dividends, recapitalizations and certain other events affecting common stock, our compensation committee will make adjustments as it deems appropriate in the maximum number of shares of common stock reserved for issuance as grants, the maximum number of shares of common stock that any individual participating in our 2010 Plan may be granted in any year, the number and kind of shares covered by outstanding grants, the kind of shares that may be issued or transferred under our 2010 Plan, and the price per share or market value of any outstanding grants.

Eligibility. All of our employees are eligible to receive grants under our 2010 Plan. In addition, our non-employee directors and consultants and advisors who perform services for us may receive grants under our 2010 Plan.

Vesting. Our compensation committee determines the vesting of awards granted under our 2010 Plan.

Options. Under our 2010 Plan, our compensation committee will determine the exercise price of the options granted and may grant options to purchase shares of common stock in such amounts as it determines. Our compensation committee may grant options that are intended to qualify as incentive stock options under

Table of Contents

Section 422 of the Code, or nonqualified stock options, which are not intended to so qualify. Incentive stock options may only be granted to employees. Anyone eligible to participate in our 2010 Plan may receive a grant of nonqualified stock options. The exercise price of a stock option granted under our 2010 Plan cannot be less than the fair market value of a share of our common stock on the date the option is granted. If an incentive stock option is granted to a 10% stockholder, the exercise price cannot be less than 110% of the fair market value of a share of our common stock on the date the option is granted. The exercise price for any option is generally payable in cash; in certain circumstances as permitted by our compensation committee, by the surrender of shares of our common stock with an aggregate fair market value on the date the option is exercised equal to the exercise price; by payment through a broker in accordance with procedures established by the Federal Reserve Board; by surrender of the vested portion of the option to us for an appreciation distribution payable in shares of our common stock with a fair market value at the time of the option surrender equal to the dollar amount by which the then fair market value of the shares of our common stock subject to the surrendered portion exceeds the aggregate exercise price. The term of an option cannot exceed ten years from the date of grant, except that if an incentive stock option is granted to a 10% stockholder, the term cannot exceed five years from the date of grant.

Except as provided in the grant instrument or as otherwise determined by our compensation committee, an option may only be exercised while a grantee is employed by or providing service to us or during an applicable period after termination of employment or service.

Stock Awards. Under our 2010 Plan, our compensation committee may grant stock awards. A stock award is an award of our common stock that may be subject to restrictions as our compensation committee determines. The restrictions, if any, may lapse over a specified period of employment or based on the satisfaction of pre-established criteria, in installments or otherwise, as our compensation committee may determine. Except to the extent restricted under the grant instrument relating to the stock award, a grantee will have all of the rights of a stockholder as to those shares, including the right to vote and the right to receive dividends or distributions on the shares. All unvested stock awards are forfeited if the grantee's employment or service is terminated for any reason, unless our compensation committee determines otherwise.

Stock Units. Under our 2010 Plan, our compensation committee may grant stock units to anyone eligible to participate in our 2010 Plan. Stock units are phantom units that represent shares of our stock. Stock units become payable on terms and conditions determined by our compensation committee and will be payable in cash or shares of our stock as determined by our compensation committee. All unvested stock units are forfeited if the grantee's employment or service is terminated for any reason, unless our compensation committee determines otherwise.

Performance Units. Under our 2010 Plan, our compensation committee may grant performance units to anyone eligible to participate in our 2010 Plan. Performance units represent a participating interest in a special bonus pool tied to the attainment of pre-established corporate performance objectives based on one or more performance goals or the right to receive a targeted dollar amount tied to the attainment of pre-established corporate performance objectives based on one or more performance goals. The amount of the bonus pool and the targeted dollar amounts may vary based on the level at which the applicable performance objectives are attained. The value of each performance unit which becomes due and payable upon the attained level of performance shall be determined by dividing the amount of the resulting bonus pool, if any, by the total number of performance units issued and outstanding at the completion of the applicable performance period or based on the threshold, target and maximum amounts that may be paid if the performance goals are met. Performance units become payable on the attainment of the applicable performance objectives as determined by our compensation committee and will be payable in cash, in shares of common stock, or in a combination of cash and shares of common stock, as determined by our compensation committee. All unvested performance units are forfeited if the grantee's employment or service is terminated for any reason, unless the committee determines otherwise.

Other Stock-Based Awards. Under our 2010 Plan, our compensation committee may grant other types of awards that are based on, measured by or payable to anyone eligible to participate in our 2010 Plan in shares of common stock, including SARs. Our compensation committee will determine the terms and conditions of

Table of Contents

such awards, including the base amount of a SAR, which will not be less than the fair market value of a share of our common stock on the date the SAR is granted. Other stock-based awards may be payable in cash, shares of common stock or a combination of the two.

Dividend Equivalents. Under our 2010 Plan, our compensation committee may grant dividend equivalents in connection with grants of stock units or other stock-based awards made under our 2010 Plan. Dividend equivalents entitle the grantee to receive amounts equal to ordinary dividends that are paid on the shares underlying a grant while the grant is outstanding. Our compensation committee will determine whether dividend equivalents will be paid currently or accrued as contingent cash obligations. Dividend equivalents may be paid in cash, in shares of common stock or in a combination of the two. Our compensation committee will determine the terms and conditions of the dividend equivalent grants, including whether the grants are payable upon the achievement of specific performance goals.

Qualified Performance-Based Compensation. Our 2010 Plan permits our compensation committee to impose performance goals that must be met with respect to grants of stock awards, stock units, performance units, other stock-based awards and dividend equivalents that are intended to meet the exception for qualified performance-based compensation under Section 162(m) of the Code. Prior to or soon after the beginning of a performance period, our compensation committee will establish the performance goals that must be met, the applicable performance periods, the amounts to be paid if the performance goals are met and any other conditions.

The performance goals, to the extent designed to meet the requirements of Section 162(m) of the Code, will be based on one or more of the following criteria: cash flow; earnings (including gross margin, earnings before interest and taxes, earnings before taxes, earnings before interest, taxes, depreciation, amortization and charges for stock-based compensation, earnings before interest, taxes, depreciation and amortization, and net earnings); earnings per share; growth in earnings or earnings per share; stock price; return on equity or average stockholder equity; total stockholder return or growth in total stockholder return either directly or in relation to a comparative group; return on capital; return on assets or net assets; revenue, growth in revenue or return on sales; income or net income; operating income, net operating income or net operating income after tax; operating profit or net operating profit; operating margin; return on operating revenue or return on operating profit; regulatory filings; regulatory approvals; litigation and regulatory resolution goals; other operational, regulatory or departmental objectives; budget comparisons, growth in stockholder value relative to established indexes, or another peer group or peer group index; development and implementation of strategic plans and/or organizational restructuring goals; development and implementation of risk and crisis management programs; improvement in workforce diversity; compliance requirements and compliance relief; safety goals; productivity goals; workforce management and succession planning goals; economic value-added (including typical adjustments consistently applied from generally accepted accounting principles required to determine economic value-added performance measures); measures of customer satisfaction, employee satisfaction or staff development; development or marketing collaborations, formations of joint ventures or partnerships or the completion of other similar transactions intended to enhance our revenue or profitability or enhance its customer base; merger and acquisitions; and other similar criteria consistent with the foregoing.

If dividend equivalents are granted as qualified performance-based compensation, the maximum amount of dividend equivalents that may be accrued by a grantee in a calendar year is \$1.0 million.

Change of Control. If we experience a change of control, unless our compensation committee determines otherwise, all outstanding options and SARs will automatically accelerate and become fully exercisable, the restrictions and conditions on all outstanding stock awards will immediately lapse and all grantees holding stock units, performance units, dividend equivalents and other equity-based awards will receive a payment in settlement of such grants in an amount determined by our compensation committee. Our compensation committee may also provide that:

Grantees will be required to surrender their outstanding stock options and SARs in exchange for a payment, in cash or shares of common stock, equal to the difference between the exercise price and the fair market value of the underlying shares of common stock;

Table of Contents

After grantees have the opportunity to exercise their stock options and SARs, any unexercised stock options and SARs will be terminated on the date determined by our compensation committee; or

All outstanding stock options and SARs not exercised will be assumed or replaced with comparable options or rights by the surviving corporation (or a parent or subsidiary of the surviving corporation) and other outstanding grants will be converted to similar grants of the surviving corporation (or a parent or subsidiary of the surviving corporation) as determined by our compensation committee.

In general terms, a change of control under our 2010 Plan occurs if:

A person, entity or affiliated group, with certain exceptions, acquires more than 50% of our then outstanding voting securities;

We merge into another entity unless the holders of our voting shares immediately prior to the merger have at least 50% of the combined voting power of the securities in the merged entity or its parent;

We merge into another entity and the members of the board of directors prior to the merger would not constitute a majority of the board of the merged entity or its parent;

We sell or dispose of all or substantially all of our assets;

We are liquidated or dissolved; or

A majority of the members of our board of directors is replaced during any 12-month period or less by directors whose appointment or election is not endorsed by a majority of the incumbent directors.

Cash Bonus Awards. Our 2010 Plan authorizes our compensation committee to grant cash bonus awards, which are intended to qualify as qualified performance-based compensation for purposes of Section 162(m) of the Code, to executive employees as selected by our compensation committee. Our compensation committee will impose and specify the performance goals that must be met with respect to the grant of cash bonus awards and the performance period for the performance goals. To satisfy the requirements of Section 162(m) of the Code for qualified performance-based compensation, our compensation committee will establish in writing the performance goals that must be met in order to receive payment for the bonus award, the maximum amounts to be paid if the performance goals are met, performance threshold levels that must be met to receive payment for the bonus award, and any other conditions our compensation committee determines and to be consistent with the requirements of Section 162(m) of the Code.

Our compensation committee will use performance goals based on one or more criteria as described above for qualified performance-based compensation.

Separate and apart from the cash bonus awards, our compensation committee may also grant to selected executive employees other bonuses which may be based on individual performance, our performance or such other criteria as determined by our compensation committee.

Deferrals. Our compensation committee may permit or require grantees to defer receipt of the payment of cash or the delivery of shares of common stock that would otherwise be due to the grantee in connection with a grant under our 2010 Plan. Our compensation committee will establish the rules and procedures applicable to any such deferrals, consistent with the requirements of Section 409A of the Code.

Repricing. Our compensation committee may cancel, with the consent of the affected holders, any or all of the outstanding options or SARs, including options or SARs transferred from our 2005 Plan, and in exchange for (1) new options or SARs with an exercise price or base amount per share not less than the fair market value per share of our common stock on the new grant date or (2) cash or shares of our common stock. Our compensation committee shall also have the authority, with the consent of the affected holders, to reduce the exercise price or base amount of one or more outstanding options or SARs to the then current fair market value per share of our common stock or issue new options or SARs with a lower exercise price or base amount.

Amendment; Termination. Our board of directors may amend or terminate our 2010 Plan at any time; except that our stockholders must approve any amendment if such approval is required in order to comply with the Code, applicable laws, or applicable stock exchange requirements. Unless terminated sooner by our

Table of Contents

board or extended with stockholder approval, our 2010 Plan will terminate on the day immediately preceding the tenth anniversary of the date on which the underwriting agreement related to this offering is signed.

Foreign Participants. If any individual who receives a grant under our 2010 Plan is subject to taxation in countries other than the U.S., our 2010 Plan provides that our compensation committee may make grants to such individuals on such terms and conditions as our compensation committee determines appropriate to comply with the laws of the applicable countries.

Outstanding Grants. Our compensation committee has approved grants to the following executive officers of options to purchase the number of shares of our common stock as set forth in the following table, such grants to be effective upon the effective date of the registration statement for this offering, at an exercise price equal to the initial public offering price:

Name	Time-Based Options	Performance- Based Options
Jane H. Hollingsworth	49,907	48,659
Terri B. Sebree	22,458	22,458
Keith A. Goldan	16,219	16,843
Gerald W. McLaughlin	16,219	16,843
Ezra H. Felker	8,109	7,486

These stock options are described in more detail under Compensation Discussion and Analysis Long-Term Incentive Compensation.

2010 Employee Stock Purchase Plan

Introduction. Our 2010 Employee Stock Purchase Plan, or our ESPP, was adopted by our board of directors on June 27, 2010 and approved by our stockholders on July 19, 2010. Our ESPP will become effective immediately prior to the effective date of the registration statement for this offering. Our ESPP permits eligible employees to purchase shares of our common stock through after-tax payroll deductions. It is intended that the ESPP meets the requirements for an employee stock purchase plan under Section 423 of the Code.

Share Reserve. 124,767 shares of common stock, representing approximately 1.0% of our outstanding common stock after this offering, are initially reserved for issuance under our ESPP. During the term of our ESPP, the reserve will automatically increase on the first trading day in January each calendar year, beginning in calendar year 2011, by an amount equal to the lesser of 1.0% of the total number of outstanding shares of common stock outstanding on the last trading day in December of the prior calendar year or 62,383 shares. All of the foregoing share limits are subject to adjustment as described below.

Adjustments. In connection with stock splits, stock dividends, recapitalizations and other events affecting our common stock, our compensation committee will make adjustments as it deems appropriate to the maximum number and class of securities issuable under our ESPP, the maximum number and class of securities purchasable per participant on any interim purchase date, the maximum number and class of securities purchasable in total by all participants on any interim purchase date, and the number and class of securities and the price per share in effect under each outstanding option, in order to prevent the dilution or enlargement of benefits thereunder.

Eligibility. Each of our employees that adopt our ESPP who are regularly scheduled to work more than 20 hours per week and for more than five months per calendar year will be eligible to participate in our ESPP. Under the Code requirements, an employee who owns 5% or more of the total combined voting power of all classes of our stock is not eligible to participate. For purposes of determining who is a 5% owner, attribution of ownership rules apply, and shares of stock subject to outstanding options are taken into account. Eligible employees may not participate in more than one offering period at a time.

Offering Period. Under our ESPP, there will be a series of overlapping offering periods, each approximately 24 months long, with interim purchase intervals approximately every six months. The first

Table of Contents

offering period will commence upon the determination of our compensation committee, in its sole discretion. Purchase intervals will run from January 1 to June 30 and from July 1 to December 31, except that the first purchase interval will commence and end upon the determination of our compensation committee, in its sole discretion. Unless our compensation committee determines otherwise prior to the beginning of an offering period, each subsequent offering period will begin on January 1 or July 1 and will end on either December 31 or June 30, 24 months later. If any of the designated dates are not a business day, the purchase date will be moved to the next business day.

Reset Feature. If the fair market value of our common stock on any interim purchase date is less than the fair market value of our common stock on the first day of the offering period, the participants in the offering period will, immediately after the purchase of shares on such interim purchase date, be transferred from that offering period into the next offering period that commences after the interim purchase date.

Participation. Each eligible employee who elects to participate in an offering period will be granted an option to purchase shares of common stock on the first day of the offering period. The option will automatically be exercised on each interim purchase date during the offering period based on the employee's accumulated contributions to our ESPP. The purchase price for each share of stock during the initial offering period will be equal to 85% of the lesser of the initial public offering price of our common stock or the fair market value of our stock on the interim purchase date. For each subsequent offering period, the purchase price of each share of common stock under our ESPP will be equal to 85% of the lesser of the fair market value per share of our common stock on the first day of the offering period or the fair market value of our common stock on each interim purchase date. Participants will generally be permitted to allocate up to 10% of their compensation to purchase common stock under our ESPP.

Initial Election Period. The first offering period will commence upon the determination of our compensation committee, in its sole discretion.

Termination of Employment. Participants may modify or end their participation in our ESPP at any time during any offering period. Participation ends automatically upon termination of employment or if the participant ceases to be an eligible employee.

Maximum Number of Purchasable Shares. The maximum number of shares that a participant may purchase on any interim purchase date may not exceed 4,990 shares and the maximum number of shares purchasable in the aggregate by all participants in our ESPP on any one interim purchase date may not exceed 49,907 shares, subject to adjustment by our compensation committee prior to the beginning of the offering period and subject to adjustments as described above. In addition, no participant may purchase more than \$25,000 worth of common stock during each calendar year under our ESPP.

Change of Control. If we experience a change of control while our ESPP is in effect, all outstanding options under our ESPP will automatically be exercised immediately prior to the effective date of any change of control and the purchase price for each share of common stock under our ESPP on such purchase date will be equal to 85% of the lesser of the fair market value per share of our common stock on the first day of the offering period in which the participant is enrolled or the fair market value of our stock immediately prior to the change of control. If a change of control occurs, the limitation on the aggregate number of shares that all participants may purchase on the purchase date will not apply.

In general terms, a change of control under our ESPP occurs in the same circumstances described above with respect to our 2010 Plan.

Plan Administration. Our ESPP will be administered by our compensation committee.

Amendment; Termination. Our board of directors may amend or terminate our ESPP at any time, with such amendment or termination to become effective immediately following the close of an interim purchase date. However, our board of directors may not amend our ESPP without stockholder approval if such amendment increases the number of shares of common stock issuable under our ESPP except for permissible adjustments in the event of changes in our capitalization, alters the purchase price formula to reduce the purchase price payable

Table of Contents

for shares purchasable under our ESPP, or modifies the eligibility requirements under our ESPP. Unless sooner terminated by our board of directors, our ESPP will terminate upon the earliest of:

June 26, 2020;

The date all shares available for issuance under our ESPP have been issued; or

The date all options are exercised in connection with a change of control.

401(k) Plan

We maintain a defined contribution employee retirement plan for our employees. Our 401(k) plan is intended to qualify as a tax-qualified plan under Section 401 of the Code so that contributions to our 401(k) plan, and income earned on such contributions, are not taxable to participants until withdrawn or distributed from the 401(k) plan. Our 401(k) plan provides that each participant may contribute up to 90% of his or her pre-tax compensation, up to a statutory limit, which is \$16,500 for 2010. Participants who are at least 50 years old can also make catch-up contributions, which in 2010 may be up to an additional \$5,500 above the statutory limit. Under our 401(k) plan, each employee is fully vested in his or her deferred salary contributions. Employee contributions are held and invested by the plan's trustee. Our 401(k) plan also permits us to make discretionary contributions and matching contributions, subject to established limits and a vesting schedule. For 2009, we made an employer matching contribution equal to 50% of employee deferral contributions up to a maximum deferral rate of 6% of compensation.

Non-Employee Director Compensation

The following table sets forth information regarding the total compensation paid to our current non-employee directors during the year ended December 31, 2009 for their service on our board of directors. The compensation amounts presented in the table below are historical and are not indicative of the amounts we may pay our directors in the future. Directors who are also our employees receive no additional compensation for their services as directors and are not set forth in the table below. Our board of directors has approved a compensation policy for our non-employee directors that will be effective upon the effective date of the registration statement for this offering. This policy provides for the following compensation to our non-employee directors following this offering:

Each non-employee director is entitled to receive an annual fee from us of \$35,000 and an additional \$35,000 fee if the non-employee director is the chairman of our board of directors;

The chair of our audit committee will receive an annual fee from us of \$15,000 and other members will receive \$7,500;

The chair of our compensation committee will receive an annual fee from us of \$10,000 and other members will receive \$5,000;

The chair of our nominating and corporate governance committee will receive an annual fee from us of \$5,000 and other members will receive \$3,500; and

Each non-employee director will be entitled to an annual grant of options to purchase 3,743 shares of our common stock under our 2010 Plan.

In addition, all non-employee directors will receive an initial grant of options to purchase 7,486 shares of our common stock under our 2010 Plan, which will be effective upon the effective date of the registration statement for this

offering. One-third of the shares underlying each of these options will vest each year on the anniversary of the grant date, such that all of the shares underlying such options will have vested on the third anniversary of the grant date. All fees under the director compensation policy will be on a rolling annual basis and no per meeting fees will be paid. We will also reimburse non-employee directors for reasonable expenses incurred in connection with attending board of director and committee meetings.

Table of Contents

Name	Fees Earned or Paid in Cash (\$)	Option Awards (\$) ⁽¹⁾	Total (\$)
Michael Cola		\$ 1,720	\$ 1,720
Jeanne Cunicelli			
Michael C. Diem, MD			
John H. Dillon, II ⁽²⁾		1,720	1,720
Richard S. Kollender			
Gary J. Kurtzman, MD			
Robert P. Roche, Jr. ⁽³⁾			
Wayne P. Yetter ⁽⁴⁾			

(1) Amounts reflect the grant date fair value of option awards determined in accordance with ASC 718. The aggregate number of shares subject to each director's outstanding option awards as of December 31, 2009 was as follows: Mr. Cola 33,061 and Mr. Dillon 11,227. Ms. Cunicelli, Dr. Diem, Mr. Kollender, Dr. Kurtzman, Mr. Roche and Mr. Yetter did not hold any options at December 31, 2009. For information regarding assumptions underlying the valuation of equity awards, see note 8 to our financial statements appearing at the end of this prospectus.

(2) On July 16, 2010, Mr. Dillon passed away and, therefore, no longer serves on the board.

(3) Appointed as a director effective as of July 19, 2010.

(4) Chairman of the board; appointed to the board on July 9, 2010.

Limitation of Liability and Indemnification

Our restated certificate of incorporation, which will become effective upon the closing of this offering, limits the liability of directors to the maximum extent permitted by the DGCL. The DGCL provides that directors of a corporation will not be personally liable for monetary damages for breach of their fiduciary duties as directors, except for liability for any:

Breach of their duty of loyalty to the corporation or its stockholders;

Act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;

Unlawful payment of dividends or redemption of shares; or

Transaction from which the directors derived an improper personal benefit.

These limitations of liability do not apply to liabilities arising under federal securities laws and do not affect the availability of equitable remedies such as injunctive relief or rescission.

Our bylaws, which will become effective upon the closing of this offering, provide that we will indemnify our directors and officers, and may indemnify other of our employees and other agents, to the fullest extent permitted by law. Our bylaws also permit us to secure insurance on behalf of any officer, director, employee or other agent for any liability arising out of his or her actions in connection with their services to us, regardless of whether our bylaws permit such indemnification. We have obtained a policy of directors and officers liability insurance.

We have entered into separate indemnification agreements with our directors in addition to the indemnification provided for in our bylaws. These indemnification agreements provide, among other things, that we will indemnify our directors for certain expenses, including damages, judgments, fines, penalties, settlements and costs and attorneys fees and disbursements, incurred by a director in any claim, action or proceeding arising in his or her capacity as a director of our company or in connection with service at our request for another corporation or entity. The indemnification agreements also provide for procedures that will apply in the event that a director makes a claim for indemnification.

At present, there is no pending litigation or proceeding involving any of our directors or executive officers as to which indemnification is required or permitted, and we are not aware of any threatened litigation or proceeding that may result in a claim for indemnification.

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

Table of Contents**TRANSACTIONS WITH RELATED PERSONS**

The following is a description of transactions since January 1, 2007 to which we have been a party, in which the amount involved in the transaction exceeds \$120,000, and in which any of our directors, executive officers or beneficial owners of more than five percent of our voting securities, or affiliates or immediate family members of any of our directors, executive officers or beneficial owners of more than five percent of our voting securities, had or will have a direct or indirect material interest. We believe the terms obtained or consideration that we paid or received, as applicable, in connection with the transactions described below were comparable to terms available or the amounts that would be paid or received, as applicable, from unrelated third parties.

Convertible Note Financings

In July 2009, we sold \$1,934,183 in gross principal amount of subordinated convertible promissory notes, or the 2009 Convertible Notes, in a private placement to certain of our existing investors. In August 2009, pursuant to the terms of the 2009 Convertible Notes, all principal and interest due under the 2009 Convertible Notes was converted into shares of Series B preferred stock. At the time of conversion, pursuant to the terms of the 2009 Convertible Notes, warrants to purchase an aggregate of 736,514 shares of Series B preferred stock were issued to the holders of such notes. This purchase is described in more detail under Preferred Stock Financings.

Purchasers of the 2009 Convertible Notes included two of our executive officers and certain holders of more than five percent of our capital stock, or entities affiliated with them. The following table sets forth the amount purchased by each such party of the 2009 Convertible Notes, and the warrants received in connection with the conversion of such notes:

Participants	Initial Principal Amount of Note	Warrant to Purchase Shares of Series B Preferred Stock Upon Conversion
5% Stockholders:		
Quaker BioVentures II, L.P. and its affiliates	\$ 855,638	325,817
Safeguard Delaware, Inc.	394,910	150,377
SR One, Limited	329,092	125,314
Battelle Ventures, L.P. and its affiliates	197,456	75,189
Birchmere Ventures III, L.P. and its affiliates	142,606	54,303
Executive Officers:		
Jane H. Hollingsworth	3,291	1,253
Ezra H. Felker	2,962	1,128

In April 2010, we sold \$10.1 million in gross principal amount of the April 2010 Convertible Notes, in a private placement to certain of our existing investors. The April 2010 Convertible Notes accrue interest at a rate equal to 8% per annum, compounding monthly, and have a maturity date of December 31, 2010, unless converted prior thereto. The April 2010 Convertible Notes are automatically convertible into common stock at a 20% discount to the initial public offering price. They also are convertible into shares of Series B preferred stock if we experience a change of control or shares of preferred equity securities sold in a financing of at least \$10.0 million prior to the closing of this offering.

Table of Contents

Purchasers of the April 2010 Convertible Notes included two of our executive officers and certain holders of more than five percent of our capital stock, or entities affiliated with them. The following table sets forth the amount purchased by each such party of the April 2010 Convertible Notes:

Participants	Initial Principal Amount of Note
5% Stockholders:	
Quaker BioVentures II, L.P. and its affiliates	\$ 3,396,226
Safeguard Delaware, Inc.	2,716,981
SR One, Limited	1,132,075
Battelle Ventures, L.P. and its affiliates	1,358,491
Birchmere Ventures III, L.P. and its affiliates	1,396,227
Executive Officers:	
Jane H. Hollingsworth	50,000
Keith A. Goldan	7,500

Preferred Stock Financings

In August 2006, we entered into a Series A Preferred Stock Purchase Agreement pursuant to which we issued and sold to investors an aggregate of 19,610,677 shares of Series A preferred stock in four separate closings from August 2006 through April 2008, at a purchase price of \$0.93 per share, or the Series A Preferred Stock Financing. The aggregate consideration for the Series A Preferred Stock Financing included \$15,000,000 in cash and \$2,590,343 in aggregate principal and interest due under convertible promissory notes held by existing investors, which pursuant to the terms of such notes, was converted into shares of Series A preferred stock.

The following table sets forth the shares of Series A preferred stock issued to our executive officers and holders of more than five percent of our capital stock and their affiliates, and the breakdown of the purchase price paid for such shares in the Series A Preferred Stock Financing by such persons:

Participants	Shares of Series A Preferred Stock Issued	Purchase Price for Series A Shares Financed by Amounts Due Under Existing Convertible Notes	
		Paid in Cash	
5% Stockholders:			
Safeguard Delaware, Inc.	6,451,612	\$ 5,999,999	
Battelle Ventures, L.P. and its affiliates	3,225,806	3,000,000	
Birchmere Ventures III, L.P. and its affiliates	4,301,076	4,000,000	
BioAdvance Ventures, L.P.	2,150,538	2,000,000	
Executive Officers:			
Jane H. Hollingsworth	143,668		\$ 106,889

In July 2008, we entered into a Series B Preferred Stock Purchase Agreement pursuant to which we issued and sold to investors an aggregate of 33,485,663 shares of Series B preferred stock in three separate closings from July 2008 through August 2009, at a purchase price of \$0.93 per share, or the Series B Preferred Stock Financing. The aggregate

consideration paid in the Series B Preferred Stock Financing included \$29,184,643 in cash and \$1,957,023 in aggregate principal and interest due under the 2009 Convertible Notes, which, pursuant to the terms of the 2009 Convertible Notes was converted into shares of Series B preferred stock. In addition, 2,688,171 shares of Series A preferred stock that were acquired in a prior financing by certain persons participating in the Series B Preferred Stock Financing were exchanged for an equal number of shares of Series B preferred stock.

The following table sets forth the shares of Series B preferred stock issued to our executive officers, a former director and holders of more than five percent of our capital stock and their affiliates, and the

Table of Contents

breakdown of the purchase price paid for such shares in the Series B Preferred Stock Financing by such persons:

Participants	Shares of Series B Preferred Stock Issued	Purchase Price for Series B Shares		
		Paid in Cash	Financed by Amounts Due Under the 2009 Convertible Notes	Represented by Exchange of Series A Shares
5% Stockholders:				
Quaker BioVentures II, L.P. and its affiliates	14,336,918	\$ 12,134,258	\$ 865,742	358,423
Safeguard Delaware, Inc.	7,526,881	5,600,427	399,573	1,075,268
SR One, Limited	5,376,344	4,667,022	332,978	
Battelle Ventures, L.P. and its affiliates	3,763,441	2,800,213	199,788	537,634
Birchmere Ventures III, L.P. and its affiliates	3,046,595	2,022,377	144,290	716,846
Former Director:				
John Climax, PhD ⁽¹⁾	537,634	500,000		
Executive Officers:				
Jane H. Hollingsworth ⁽²⁾	53,763	46,670	3,330	
Keith A. Goldan	26,882	25,000		
Ezra H. Felker	48,387	42,003	2,997	

(1) Dr. Climax resigned as a director, effective July 8, 2008.

(2) Ms. Hollingsworth was also a director at the time of the Series B Preferred Stock Financing.

These stockholders and their equity holdings are described in more detail under Principal Stockholders.

The following table sets forth the members of our board of directors as of June 30, 2010 that are associated with the holders of more than five percent of our capital stock.

Director**5% Stockholder**

Jeanne Cunicelli	Birchmere Ventures III, L.P. and its affiliates
Michael C. Diem, MD	SR One, Limited
Richard S. Kollender	Quaker BioVentures II, L.P. and its affiliates
Gary J. Kurtzman, MD	Safeguard Delaware, Inc.

Investor Rights Agreement and Stockholders Agreement

In connection with our various preferred stock financings, we entered into our amended and restated investor rights agreement, or our Investor Rights Agreement, and our amended and restated stockholders agreement, or our Stockholders Agreement, containing voting rights, information rights, rights of first refusal, preemptive rights and registration rights, among other things, with certain holders of preferred stock and certain holders of common stock.

The Stockholders Agreement will automatically terminate upon the closing of this offering. The provisions of the Investor Rights Agreement relating to indemnification of directors and registration rights will survive the closing of this offering. The other material provisions of the Investor Rights Agreement will automatically terminate upon the closing of this offering. The Investor Rights Agreement limits the liability of our directors to the maximum extent permitted by law. The registration rights in our Investor Rights Agreement are described in more detail under Description of Capital Stock Registration Rights.

Table of Contents

Employment Agreements

We have entered into employment agreements with each of our executive officers, which become effective upon the closing of this offering. Each of these agreements is described in more detail under Executive Compensation Compensation Discussion and Analysis Employment Agreements and Severance and Change of Control Benefits.

Stock Option and Restricted Stock Grant Awards to Executive Officers and Directors

We have granted stock options and restricted stock to certain of our executive officers and directors, as described in more detail under Executive Compensation.

Indemnification Agreements

We have entered into indemnification agreements with each of our directors, as described in more detail under Executive Compensation Limitation of Liability and Indemnification.

Policies and Procedures for Transactions with Related Persons

In connection with this offering, our board of directors is adopting written policies and procedures for the review of any transaction, arrangement or relationship in which we are a participant, the amount involved exceeds \$120,000 and one of our executive officers, directors, director nominees or 5% stockholders, or their immediate family members, each of whom we refer to as a related person, has a direct or indirect material interest. Transactions involving compensation for services provided to us as an employee, director, consultant or similar capacity by a related person will not be covered by this policy.

Under the policy, where a transaction has been identified as a related person transaction, management must present information regarding the proposed related person transaction to our audit committee, or, where review by our audit committee would be inappropriate, to another independent body of our board of directors, for review. The presentation must include a description of, among other things, the material facts, the direct and indirect interests of the related persons, the benefits of the transaction to us and whether any alternative transactions are available. To identify related person transactions in advance, we rely on information supplied by our executive officers, directors and certain significant stockholders. In considering related person transactions, our audit committee or other independent body of our board of directors takes into account the relevant available facts and circumstances including:

The risks, costs and benefits to us;

The impact on a director's independence in the event the related person is a director, immediate family member of a director or an entity with which a director is affiliated;

The terms of the transaction;

The availability of other sources for comparable services or products; and

The terms available to or from, as the case may be, unrelated third parties or to or from our employees generally.

In the event a director has an interest in the proposed transaction, the director must recuse himself or herself from the deliberations and approval. Our policy requires that, in reviewing a related person transaction, our audit committee or other independent body of our board of directors must consider, in light of known circumstances, whether the

transaction is in, or is not inconsistent with, the best interests of us and our stockholders, as our audit committee or other independent body of our board of directors determines in the good faith exercise of its discretion. We did not previously have a formal policy concerning transactions with related persons.

Table of Contents

PRINCIPAL STOCKHOLDERS

The following table sets forth information regarding beneficial ownership of our common stock outstanding as of June 30, 2010 by:

Each person, or group of affiliated persons, known by us to beneficially own more than 5% of our common stock;

Each of our directors;

Each of our named executive officers; and

All of our directors and executive officers as a group.

The number of shares and percentage of shares beneficially owned before the offering shown in the table is based on a total of 9,112,231 shares of common stock, which includes:

392,254 shares of common stock outstanding as of June 30, 2010, including 8,887 shares of unvested restricted stock;

7,858,934 shares of common stock issuable upon the conversion of all outstanding shares of our preferred stock, including accrued dividends, upon the closing of this offering, assuming that the closing occurs on August 9, 2010; and

861,043 shares of common stock issuable upon the automatic conversion of all principal and accrued interest outstanding under the April 2010 Convertible Notes upon the closing of this offering, assuming an initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, and that the closing occurs on August 9, 2010.

The number of shares and percentage of shares beneficially owned after the offering also gives effect to the issuance by us of 5,000,000 shares of common stock in this offering.

Each individual or entity shown in the table has furnished information to us with respect to beneficial ownership. We have determined beneficial ownership in accordance with the rules and regulations of the SEC, which generally attribute beneficial ownership of our common stock and other securities to those persons who possess sole or shared voting power or investment power with respect to such securities. Shares of our common stock subject to options or warrants that are currently exercisable or exercisable within 60 days of June 30, 2010, are considered outstanding and beneficially owned by the person holding the options or warrants for the purpose of calculating the percentage ownership of that person but not for the purpose of calculating the percentage ownership of any other person. Unless otherwise indicated, the persons or entities identified in the table have sole voting and investment power with respect to all shares shown as beneficially owned by them, subject to applicable community property laws.

Except as otherwise noted in the table, the address for each person or entity listed in the table is c/o NuPathe Inc., 227 Washington Street, Suite 200, Conshohocken, Pennsylvania 19428.

Table of Contents

Name and Address of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned	
		Before Offering	After Offering
5% Stockholders:			
Quaker BioVentures II, L.P. and its affiliates ⁽¹⁾ Cira Center 2929 Arch Street Philadelphia, PA 19104-2868	2,649,498	28.95%	18.72%
Safeguard Delaware, Inc. ⁽²⁾ 1105 N. Market St. Suite 1300 Wilmington, DE 19801	2,181,867	23.90	15.44
Birchmere Ventures III, L.P. and its affiliates ⁽³⁾ 2835 East Carson Street, Suite 208 Pittsburgh, PA 15203	1,135,067	12.45	8.04
Battelle Ventures, L.P. and its affiliates ⁽⁴⁾ 103 Carnegie Center, Suite 100 Princeton, NJ 08540	1,090,673	11.96	7.72
SR One, Limited ⁽⁵⁾ 161 Washington Street, Suite 500 Conshohocken, PA 19428	875,490	9.59	6.20
Executive Officers and Directors:			
Jane H. Hollingsworth ⁽⁶⁾	347,074	3.75	2.43
Terri B. Sebree ⁽⁷⁾	256,895	2.79	1.81
Keith A. Goldan ⁽⁸⁾	48,089	*	*
Gerald W. McLaughlin ⁽⁹⁾	47,057	*	*
Ezra H. Felker ⁽¹⁰⁾	65,606	*	*
Michael Cola ⁽¹¹⁾	24,275	*	*
Jeanne Cunicelli ⁽¹²⁾	1,135,067	12.45	8.04
Michael C. Diem, MD ⁽¹³⁾	875,490	9.59	6.20
Richard S. Kollender ⁽¹⁴⁾	2,649,498	28.95	18.72
Gary J. Kurtzman, MD ⁽¹⁵⁾	2,181,867	23.90	15.44
Robert P. Roche, Jr. Wayne P. Yetter All executive officers and directors as a group (12 persons)	7,630,918	79.56	52.30

* Less than one percent.

- (1) Includes with respect to Quaker BioVentures II, L.P., or Quaker, (a) 1,609,904 shares of common stock issuable upon the automatic conversion of 12,903,226 shares of Series B preferred stock, (b) 216,612 shares of common stock that represent accrued dividends on such Series B preferred stock, (c) 37,524 shares of common stock issuable upon the exercise of a warrant within 60 days of June 30, 2010 and (d) 290,625 shares of common stock issuable upon the automatic conversion of all principal and accrued interest outstanding under the April 2010 Convertible Note held by Quaker upon the closing of this offering, assuming an initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus.

Edgar Filing: NUPATHE INC. - Form S-1/A

Includes with respect to BioAdvance Ventures, L.P., or BioAdvance, (a) 223,597 shares of common stock issuable upon the automatic conversion of 1,792,115 shares of Series A preferred stock, (b) 178,878 shares of common stock issuable upon the automatic conversion of 1,433,692 shares of Series B preferred stock, (c) 89,231 shares of common stock that represent accrued dividends on such Series A and Series B preferred stock and (d) 3,127 shares of common stock issuable upon the exercise of a warrant within 60 days of June 30, 2010.

Richard S. Kollender, a member of our board of directors, serves in a variety of roles related to Quaker and BioAdvance. Mr. Kollender is a Vice President of Quaker BioVentures Management, LLC, which is the general partner of Quaker BioVentures Management, L.P., which is the management company for

Table of Contents

Quaker. Mr. Kollender is also a Vice President of Quaker BioVentures Capital II, LLC, which is the general partner of Quaker BioVentures Capital II, L.P., which is the general partner of Quaker. Mr. Kollender is also a partner of Quaker BioVentures Management, L.P. and a limited partner of Quaker BioVentures Capital II Joint Venture, L.P., which is a limited partner of Quaker BioVentures Capital II, L.P.

Mr. Kollender is also a Vice President of Quaker BioAdvance Management, LLC, the general partner of Quaker BioAdvance Management, L.P., which is the manager of BioAdvance. Mr. Kollender is also a partner of Quaker Joint Venture, which is a limited partner of Quaker BioVentures Capital, L.P., which is a limited partner of BioAdvance GP I, L.P., which is the general partner of BioAdvance.

Mr. Kollender disclaims beneficial ownership of the shares of capital stock held by Quaker and BioAdvance, except to the extent of his pecuniary interest therein.

- (2) Consists of (a) 670,793 shares of common stock issuable upon the automatic conversion of 5,376,344 shares of Series A preferred stock, (b) 939,111 shares of common stock issuable upon the automatic conversion of 7,526,881 shares of Series B preferred stock, (c) 320,701 shares of common stock that represent accrued dividends on such Series A and Series B preferred stock, (d) 18,762 shares of common stock issuable upon the exercise of a warrant within 60 days of June 30, 2010 and (e) 232,500 shares of common stock issuable upon the automatic conversion of all principal and accrued interest outstanding under the April 2010 Convertible Note held by Safeguard Delaware, Inc., or Safeguard Delaware, upon the closing of this offering, assuming an initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus.

Gary J. Kurtzman, MD, a member of our board of directors, is a Vice President and Managing Director of Safeguard, which is the parent of Safeguard Delaware. Dr. Kurtzman disclaims beneficial ownership of the shares of capital stock held by Safeguard, except to the extent of his pecuniary interest therein.

- (3) Includes with respect to Birchmere Ventures III TSIB, L.P., or Birchmere TSIB, (a) 160,990 shares of common stock issuable upon the automatic conversion of 1,290,323 shares of Series A preferred stock, (b) 136,842 shares of common stock issuable upon the automatic conversion of 1,096,775 shares of Series B preferred stock, (c) 65,352 shares of common stock that represent accrued dividends on such Series A and Series B preferred stock, (d) 2,439 shares of common stock issuable upon the exercise of a warrant within 60 days of June 30, 2010 and (e) 43,000 shares of common stock issuable upon the automatic conversion of all principal and accrued interest outstanding under the April 2010 Convertible Note held by Birchmere TSIB upon the closing of this offering, assuming an initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus.

Includes with respect to Birchmere Ventures III, L.P., or Birchmere, (a) 286,205 shares of common stock issuable upon the automatic conversion of 2,293,907 shares of Series A preferred stock, (b) 243,274 shares of common stock issuable upon the automatic conversion of 1,949,820 shares of Series B preferred stock, (c) 116,183 shares of common stock that represent accrued dividends on such Series A and Series B preferred stock, (d) 4,336 shares of common stock issuable upon the exercise of a warrant within 60 days of June 30, 2010 and (e) 76,446 shares of common stock issuable upon the automatic conversion of all principal and accrued interest outstanding under the April 2010 Convertible Note held by Birchmere upon the closing of this offering, assuming an initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus.

Jeanne Cunicelli, a member of our board of directors, is an Investment Partner of Bay City Capital LLC, which is the manager of BV3GP Investors, LLC, which is the managing member of BV3 LLC, which is the general

partner of BV3 Management LP, which is the general partner of Birchmere and the general partner of Birchmere TSIB. Ms. Cunicelli disclaims beneficial ownership of the shares of capital stock held by the funds managed by Bay City Capital LLC, except to the extent of her pecuniary interest therein.

- (4) Includes with respect to Battelle Ventures, L.P., or Battelle, (a) 283,745 shares of common stock issuable upon the automatic conversion of 2,274,194 shares of Series A preferred stock, (b) 422,600 shares of common stock issuable upon the automatic conversion of 3,387,097 shares of Series B preferred stock, (c) 138,495 shares of common stock that represent accrued dividends on such Series A and Series B

Table of Contents

preferred stock, (d) 8,443 shares of common stock issuable upon the exercise of a warrant within 60 days of June 30, 2010 and (e) 104,625 shares of common stock issuable upon the automatic conversion of all principal and accrued interest outstanding under the April 2010 Convertible Note held by Battelle upon the closing of this offering, assuming an initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus.

Includes with respect to Innovation Valley Partners, LP, or IVP, (a) 51,651 shares of common stock issuable upon the automatic conversion of 413,978 shares of Series A preferred stock, (b) 46,955 shares of common stock issuable upon the automatic conversion of 376,344 shares of Series B preferred stock, (c) 21,596 shares of common stock that represent accrued dividends on such Series A and Series B preferred stock, (d) 938 shares of common stock issuable upon the exercise of a warrant within 60 days of June 30, 2010 and (e) 11,625 shares of common stock issuable upon the automatic conversion of all principal and accrued interest outstanding under the April 2010 Convertible Note held by IVP upon the closing of this offering, assuming an initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus.

- (5) Consists of (a) 670,793 shares of common stock issuable upon the automatic conversion of 5,376,344 shares of Series B preferred stock, (b) 92,187 shares of common stock that represent accrued dividends on such Series B preferred stock, (c) 15,635 shares of common stock issuable upon the exercise of a warrant within 60 days of June 30, 2010 and (d) 96,875 shares of common stock issuable upon the automatic conversion of all principal and accrued interest outstanding under the April 2010 Convertible Note held by SR One upon the closing of this offering, assuming an initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus.

Michael C. Diem, MD, a member of our board of directors, is a Partner of SR One. Dr. Diem disclaims beneficial ownership of the shares of capital stock held by SR One, except to the extent of his pecuniary interest therein.

- (6) Consists of (a) 168,436 shares of common stock, which includes 3,119 shares of unvested restricted stock, 6,238 shares of common stock held by Jane Hollingsworth 2000 Irrevocable Family Trust I, and 6,238 shares of common stock held by Bradford Hollingsworth 2000 Irrevocable Family Trust I, (b) 17,925 shares of common stock issuable upon the automatic conversion of 143,668 shares of Series A preferred stock, (c) 6,707 shares of common stock issuable upon the automatic conversion of 53,763 shares of Series B preferred stock, (d) 6,577 shares of common stock that represent accrued dividends on such Series A and Series B preferred stock, (e) 142,995 shares of common stock issuable upon the exercise of stock options within 60 days of June 30, 2010, (f) 156 shares of common stock issuable upon the exercise of a warrant within 60 days of June 30, 2010 and (g) 4,278 shares of common stock issuable upon the automatic conversion of all principal and accrued interest outstanding under the April 2010 Convertible Note held by Ms. Hollingsworth upon the closing of this offering, assuming an initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus.

Ms. Hollingsworth disclaims beneficial ownership of the shares held by the Jane Hollingsworth 2000 Irrevocable Family Trust I and the Bradford Hollingsworth 2000 Irrevocable Family Trust I.

- (7) Consists of 168,436 shares of common stock, which includes 3,119 shares of unvested restricted stock, and 88,459 shares of common stock issuable upon the exercise of stock options within 60 days of June 30, 2010.
- (8) Consists of (a) 3,354 shares of common stock issuable upon the automatic conversion of 26,882 shares of Series B preferred stock, (b) 474 shares of common stock that represent accrued dividends on such Series B preferred stock, (c) 43,620 shares of common stock issuable upon the exercise of stock options within 60 days of June 30, 2010 and (d) 641 shares of common stock issuable upon the automatic conversion of all principal and

accrued interest outstanding under the April 2010 Convertible Note held by Mr. Goldan upon the closing of this offering, assuming an initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus.

- (9) Consists of 47,057 shares of common stock issuable upon the exercise of stock options within 60 days of June 30, 2010.

Table of Contents

- (10) Consists of (a) 7,486 shares of common stock, which includes 1,871 shares of unvested restricted stock, (b) 6,037 shares of common stock issuable upon the automatic conversion of 48,387 shares of Series B preferred stock held by Mr. Felker in his IRA account, (c) 829 shares of common stock that represent accrued dividends on such Series B preferred stock, (d) 51,114 shares of common stock issuable upon the exercise of stock options within 60 days of June 30, 2010 and (e) 140 shares of common stock issuable upon the automatic conversion of 1,128 shares of Series B preferred stock issuable to Mr. Felker's IRA account upon the exercise of a warrant within 60 days of June 30, 2010.
- (11) Consists of 24,275 shares of common stock issuable upon the exercise of stock options within 60 days of June 30, 2010.
- (12) Jeanne Cunicelli is an Investment Partner of Bay City Capital LLC, which is the manager of BV3GP Investors, LLC, which is the managing member of BV3 LLC, which is the general partner of BV3 Management LP, which is the general partner of Birchmere and the general partner of Birchmere TSIB. Ms. Cunicelli may be considered to have beneficial ownership of the Bay City Capital LLC funds' interest in us. Ms. Cunicelli disclaims beneficial ownership of all such shares, except to the extent of her pecuniary interest therein. See note 3 above.
- (13) Michael C. Diem, MD is a Partner of SR One and may be considered to have beneficial ownership of SR One's interest in us. Dr. Diem disclaims beneficial ownership of all such shares, except to the extent of his pecuniary interest therein. See note 5 above.
- (14) Richard S. Kollender serves in a variety of roles related to Quaker and BioAdvance, and Mr. Kollender may be considered to have beneficial ownership of Quaker's and BioAdvance's interests in us. Mr. Kollender disclaims beneficial ownership of all such shares, except to the extent of his pecuniary interest therein. See note 1 above.
- (15) Gary J. Kurtzman, MD, is a Vice President and Managing Director of Safeguard and may be considered to have beneficial ownership of Safeguard Delaware's interest in us. Dr. Kurtzman disclaims beneficial ownership of all such shares, except to the extent of his pecuniary interest therein. See note 2 above.

Table of Contents

DESCRIPTION OF CAPITAL STOCK

General

The following description of our capital stock and provisions of our restated certificate of incorporation and our bylaws are summaries, and are qualified by reference to the provisions of our restated certificate of incorporation and our bylaws that will be in effect upon the closing of this offering. We have filed forms of these documents as exhibits to the registration statement for this offering. The description of our capital stock reflects changes to our capital structure that will occur upon the closing of this offering.

Upon the closing of this offering, our authorized capital stock will consist of 90,000,000 shares of common stock, par value \$0.001 per share, and 10,000,000 shares of undesignated preferred stock.

As of June 30, 2010, we had issued and outstanding:

392,254 shares of common stock held by 12 stockholders of record, which included 8,887 shares of unvested restricted stock; and

53,096,340 shares in the aggregate of Series A and Series B preferred stock, which, together with accrued dividends thereon, are automatically convertible into 7,858,934 shares of common stock upon the closing this offering, assuming that the closing occurs on August 9, 2010.

As of June 30, 2010, we also had outstanding:

Options to purchase an aggregate of 938,223 shares of common stock under our 2005 Plan at a weighted average exercise price of \$1.81 per share;

An aggregate of \$10,332,573 of principal and accrued interest under the April 2010 Convertible Notes, which is automatically convertible into 861,043 shares of common stock upon the closing of this offering, assuming an initial public offering price of \$15.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, and that the closing occurs on August 9, 2010; and

Warrants to purchase an aggregate of 1,126,298 shares of preferred stock at a weighted average exercise price of \$0.93 per share, which will become, in accordance with their terms, warrants to purchase 140,520 shares of common stock at an exercise price of \$7.45 per share of common stock upon the closing of this offering, held by a total of 15 persons.

In addition, upon the effective date of the registration statement for this offering, we will grant options to purchase an aggregate of 345,350 shares of common stock at an exercise price equal to the initial public offering price.

Common Stock

Voting Rights. Each holder of common stock is entitled to one vote per share on all matters properly submitted to a vote of the stockholders, including the election of directors. Our restated certificate of incorporation and our bylaws will not provide for cumulative voting rights. Because of this, the 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, if they should so choose. An election of directors by our stockholders is determined by a plurality of the votes cast by stockholders entitled to

vote on the election.

Dividends. Subject to preferences that may be applicable to any then outstanding preferred stock, the holders of our outstanding shares of common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds.

Liquidation. In the event of our liquidation, dissolution or winding up, holders of 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.

Table of Contents

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 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.

Preferred Stock

Our restated certificate of incorporation will not reference any existing series of preferred stock and will authorize our board of directors to issue up to 10,000,000 shares of undesignated preferred stock. Under the restated certificate of incorporation, our board will be authorized, without stockholder approval, to issue preferred stock in one or more series, to establish the number of shares to be included in each such series and to fix the designation, powers, preferences and rights of such shares and any qualifications, limitations or restrictions thereof. 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 common stock. The issuance of preferred stock with voting and conversion rights may adversely affect the voting power of the holders of common stock, including the loss of voting control to others. We have no current plans to issue any shares of preferred stock.

Warrants

Assuming no warrants have been exercised as of June 30, 2010, upon the closing of this offering there will be outstanding 12 warrants to purchase an aggregate of 91,890 shares of common stock, each at an exercise price of \$7.45 per share and each of which expire on August 20, 2016, one warrant to purchase 16,769 shares of common stock at an exercise price of \$7.45 per share, which will expire on the date five years following the closing of this offering, but in any event no later than March 29, 2017 and two warrants to purchase 31,861 shares of common stock, each at an exercise price of \$7.45 per share and each of which expire ten years from the date of issuance.

Each of these warrants has a net exercise provision under which its holder may, in lieu of payment of the exercise price in cash, surrender the warrant and receive a net amount of shares based on the fair market value of our common stock at the time of exercise of the warrant after deduction of the aggregate exercise price. Each of these warrants also contains provisions for the adjustment of the exercise price and the aggregate number of shares issuable upon the exercise of the warrant in the event of stock dividends, split-ups, reclassifications, mergers, consolidations, combinations or exchanges of shares, separations, reorganizations or liquidations.

The holders of certain of these warrants are entitled to registration rights under our Investor Rights Agreement, as described in more detail under [Registration Rights](#).

Registration Rights

Upon the closing of this offering, holders of a total of 8,860,496 shares of our common stock as of June 30, 2010, including shares of our common stock issuable upon exercise of outstanding warrants, will have the right to require us to register these shares under the Securities Act, under specified circumstances, pursuant to the terms of the Investor Rights Agreement. After registration pursuant to these rights, these shares will become freely tradable without restriction under the Securities Act. These registration rights will terminate upon the earlier of the date that is three years following the closing of this offering and the date that all registrable shares may immediately be sold pursuant to Rule 144 without regard to volume limitations.

Demand and Form S-3 Registration Rights. Subject to specified limitations, the holders of at least 662/3% of our preferred stock having registration rights may demand that we register all or a portion of their registrable shares under

the Securities Act. We are not obligated to file a registration statement pursuant to this provision:

Until 180 days after the closing of this offering; and

On more than two occasions.

Table of Contents

In addition, the holders of our registrable shares may demand that we register on Form S-3 all or a portion of the registrable shares held by them. We are not obligated to file a Form S-3 pursuant to this provision on more than two occasions in any 12-month period.

Incidental Registration Rights. If at any time after the closing of this offering we propose to file a registration statement to register any of our securities under the Securities Act, either for our own account or for the account of any of our stockholders, the holders of our registrable shares are entitled to notice of registration and are entitled to include their shares of common stock in the registration.

Limitations and Expenses. In the event that any registration in which the holders of registrable shares participate pursuant to the Investor Rights Agreement is an underwritten public offering, the number of registrable shares to be included may, in specified circumstances, be limited due to market conditions. Pursuant to the Investor Rights Agreement, we are required to pay all registration expenses, including the fees and expenses of one counsel to represent the selling holders, other than any underwriting discounts, selling commissions and similar discounts relating to underwriters or commissions related to sales, related to any demand or incidental registration. We are also required to indemnify each participating holder with respect to each registration of registrable shares that is effected.

Delaware Anti-Takeover Law and Provisions of Our Restated Certificate of Incorporation and Our Bylaws

Delaware Anti-Takeover Law. We are subject to Section 203 of the DGCL. 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 the interested stockholder attained such status with the approval of our board of directors, the business combination is approved in a prescribed manner or the interested stockholder acquired at least 85% of our outstanding voting stock in the transaction in which it became an interested stockholder. A business combination includes, among other things, a merger or consolidation involving us and the interested stockholder and the sale of more than 10% of our assets. In general, an interested stockholder is any entity or person beneficially owning 15% or more of our outstanding voting stock and any entity or person affiliated with or controlling or controlled by such entity or person.

Restated Certificate of Incorporation and Bylaws. Provisions of our restated certificate of incorporation and our bylaws, which will become effective upon the closing of this offering, may delay or discourage transactions involving an actual or potential change of 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 restated certificate of incorporation and our bylaws:

Authorize the issuance of blank check preferred stock, the terms of which may be established and shares of which may be issued without stockholder approval;

Prohibit stockholder action by written consent, thereby requiring all stockholder actions to be taken at a meeting of our stockholders;

Eliminate the ability of stockholders to call a special meeting of stockholders; and

Establish advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted upon at stockholder meetings.

The amendment of any of these provisions by the stockholders would require the approval of the holders at least 662/3% of our then outstanding common stock.

Listing on The NASDAQ Global Market

We have applied to have our common stock listed on The NASDAQ Global Market under the symbol PATH.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is StockTrans, Inc.

Table of Contents

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no public market for our common stock, and a liquid trading market for our common stock may not develop or be sustained after this offering. Future sales of substantial amounts of our common stock in the public market, including shares issued upon exercise of outstanding options and warrants or in the public market after this offering, or the anticipation of these sales, could adversely affect market prices prevailing from time to time and could impair our ability to raise equity capital in the future.

Upon the closing of this offering, we will have outstanding an aggregate of 14,112,231 shares of common stock, assuming the underwriters do not exercise their over-allotment option and no options or warrants outstanding as of June 30, 2010 are exercised.

Of the shares to be outstanding immediately after the closing of this offering, we expect that 5,000,000 shares will be freely tradable without restriction under the Securities Act unless purchased by our affiliates, as that term is defined in Rule 144 under the Securities Act. The remaining 9,112,231 shares of our common stock outstanding after this offering will be restricted securities under Rule 144 of the Securities Act, and substantially all of these shares will be subject to a 180-day lock-up period under the lock-up agreements as described below. Restricted securities as defined under Rule 144 were issued and sold by us in reliance on exemptions from the registration requirements of the Securities Act. These shares may be sold in the public market only if registered or pursuant to an exemption from registration, such as Rule 144 or Rule 701 under the Securities Act. Approximately 8,233,354 shares of the restricted shares that will become available for sale in the public market starting 180 days after the date of this prospectus will be limited by volume and other resale restrictions under Rule 144 because certain holders are our affiliates.

Lock-Up Agreements

We, our officers and directors and holders of substantially all of our outstanding stock, options and warrants have agreed, subject to specified exceptions, not to sell or transfer any common stock or securities convertible into, or exchangeable or exercisable for, common stock, during a period ending 180 days after the date of this prospectus, subject to extension, without first obtaining the written consent of Leerink Swann LLC and Lazard Capital Markets LLC. Specifically, we and these other individuals and entities have agreed not to:

Offer, pledge, sell or 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, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for common stock; or

Enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock.

The lock-up restrictions and specified exceptions are described in more detail under **Underwriting Lock-Up Agreements**.

Rule 144

In general, under Rule 144, beginning 90 days after the date of this prospectus, any person who is not our affiliate and has held their shares for at least six months, including the holding period of any prior owner other than one of our affiliates, may sell shares without restriction. In addition, under Rule 144, any person who is not an affiliate of ours

and has held their shares for at least one year, including the holding period of any prior owner other than one of our affiliates, would be entitled to sell an unlimited number of shares immediately upon the closing of this offering without regard to whether current public information about us is available.

Beginning 90 days after the date of this prospectus, a person who is our affiliate or who was our affiliate at any time during the preceding three months and who has beneficially owned restricted securities for at least

Table of Contents

six months, including the holding period of any prior owner other than one of our affiliates, is entitled to sell a number of shares within any three-month period that does not exceed the greater of:

1% of the number of shares of our common stock then outstanding, which will equal approximately 141,122 shares immediately after this offering; and

The average weekly trading volume of our common stock on The NASDAQ Global Market during the four calendar weeks preceding the filing of a Notice of Proposed Sale of Securities Pursuant to Rule 144 with respect to the sale.

Sales under Rule 144 by our affiliates are also subject to manner of sale provisions and notice requirements and to the availability of current public information about us.

Upon expiration of the 180-day lock-up period described above, approximately 9,110,653 shares of our common stock will be eligible for sale under Rule 144. We cannot estimate the number of shares of our common stock that our existing stockholders will elect to sell under Rule 144.

Rule 701

In general, under Rule 701 of the Securities Act, any of our employees, consultants or advisors, other than our affiliates, who purchased shares from us in connection with a qualified compensatory stock plan or other written agreement is eligible to resell these shares 90 days after the date of this prospectus in reliance on Rule 144, but without compliance with the holding period requirements of Rule 144 and without regard to the volume of such sales or the availability of public information about us. Subject to the 180-day lock-up period described above, approximately 34,638 shares of our common stock will be eligible for sale in accordance with Rule 701.

Registration Rights

Subject to the lock-up agreements described above, upon closing of this offering, the holders of 8,719,976 shares of our common stock and warrants to purchase up to 140,520 shares of our common stock will be entitled to require us to register these shares under the Securities Act under specified circumstances. After registration pursuant to these rights, these shares will become freely tradable without restriction under the Securities Act. These registration rights are described in more detail under **Description of Capital Stock** **Registration Rights**.

Equity Incentive Plans

We intend to file one or more registration statements on Form S-8 under the Securities Act to register all shares of common stock subject to outstanding stock options and common stock issuable under our 2005 Plan, 2010 Plan and ESPP. We expect to file the registration statement covering shares offered pursuant to our stock plans shortly after the date of this prospectus, permitting the resale of such shares by non-affiliates in the public market without restriction under the Securities Act and the sale by affiliates in the public market, subject to compliance with the resale provisions of Rule 144. Our equity incentive plans are described in more detail under **Executive Compensation** **Employee Benefit Plans**.

Table of Contents**UNDERWRITING**

Subject to the terms and conditions set forth in an underwriting agreement dated the date of this prospectus among us and the underwriters named below, we have agreed to sell to the underwriters, and each underwriter has severally agreed to purchase from us, the number of shares of common stock listed next to its name in the following table. Leerink Swann LLC and Lazard Capital Markets LLC are acting as joint book-running managers for the offering and as representatives of the underwriters.

Name	Number of Shares
Leerink Swann LLC	
Lazard Capital Markets LLC	
Needham & Company, LLC	
Total	5,000,000

The underwriters are committed to purchase all the shares of common stock offered by us if they purchase any shares. The underwriting agreement also provides that if an underwriter defaults, the purchase commitments of non-defaulting underwriters may be increased or the offering may be terminated. The underwriters are not obligated to purchase the shares of common stock covered by the underwriters' over-allotment option described below.

The underwriters are offering the shares, 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 contained in the underwriting agreement, such as the receipt by the underwriters of officer's certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Discounts and Commissions

The underwriters propose initially to offer the shares to the public at the public offering price set forth on the cover page of this prospectus and to dealers at that price less a concession not in excess of \$ per share. After the initial offering of the shares, the public offering price and other selling terms may be changed by the representatives.

The following table shows the public offering price, underwriting discounts and commissions and proceeds before expenses to us. The information assumes either no exercise or full exercise by the underwriters of their over-allotment option.

	Per Share	Without Option	With Option
Public offering price	\$	\$	\$
Underwriting discounts and commissions	\$	\$	\$
Proceeds, before expenses, to us	\$	\$	\$

The total estimated expenses of the offering, including registration, filing and listing fees, printing fees and legal and accounting expenses, but excluding underwriting discounts and commissions, are approximately \$3.3 million and are payable by us.

Upon the closing of this offering, we will pay to MTS Securities, LLC, or MTS, a financial advisory fee equal to \$150,000 if the aggregate gross proceeds of this offering, before deducting underwriting discounts and commissions and offering expenses, are less than \$50.0 million, or 0.50% of such gross proceeds if the aggregate gross proceeds of this offering are equal to or greater than \$50.0 million. Financial advisory services provided by MTS include assistance in financial analysis and advice with respect to the initial public offering process and equity capital market alternatives. MTS is not acting as an underwriter in connection with this offering.

Lazard Frères & Co. LLC referred this transaction to Lazard Capital Markets LLC and will receive a referral fee from Lazard Capital Markets LLC in connection therewith.

Table of Contents

Over-Allotment Option

We have granted the underwriters an option to purchase up to 750,000 additional shares of common stock at the public offering price, less underwriting discounts and commissions. The underwriters may exercise this option for 30 days from the date of this prospectus solely to cover sales of shares of common stock by the underwriters in excess of the total number of shares set forth in the table above. If any shares are purchased pursuant to this over-allotment option, the underwriters will purchase the additional shares in approximately the same proportion as shown in the table above. If any of these additional shares are purchased, the underwriters will offer the additional shares on the same terms as those on which the shares are being offered. We will pay the expenses associated with the exercise of the over-allotment option.

Initial Public Offering Pricing

Prior to this offering, there has been no public market for our common stock. The initial public offering price will be negotiated between us and the representatives. Among the factors considered in these negotiations are:

The prospects for our company and the industry in which we operate;

Our past and present financial and operating performance;

Financial and operating information and market valuations of publicly traded companies engaged in activities similar to ours;

The prevailing conditions of U.S. securities markets at the time of this offering; and

Other factors deemed relevant.

The estimated initial public offering price range set forth on the cover of this preliminary prospectus is subject to change as a result of market conditions and other factors.

Lock-Up Agreements

We, our officers and directors and holders of substantially all of our outstanding stock, options and warrants have entered into lock-up agreements with the underwriters. Under these agreements, we and these other individuals have agreed, subject to specified exceptions, not to sell or transfer any common stock or securities convertible into, or exchangeable or exercisable for, common stock, during a period ending 180 days after the date of this prospectus, without first obtaining the written consent of Leerink Swann LLC and Lazard Capital Markets LLC. Specifically, we and these other individuals have agreed not to:

Offer, pledge, sell or 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, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for common stock; or

Enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock,

whether any such transaction described above is to be settled by delivery of common stock or other securities, in cash or otherwise.

The restrictions described above do not apply to:

The sale of shares of common stock to the underwriters pursuant to the underwriting agreement;

The issuance by us of shares of common stock upon the exercise of an option or warrant or the conversion of a security outstanding on the date of this prospectus of which the underwriters have been advised in writing or that is described in this prospectus;

The grant by us of stock options or other stock-based awards, or the issuance of shares of common stock upon exercise thereof, to eligible participants pursuant to employee benefit or equity incentive

Table of Contents

plans described in this prospectus, provided that, prior to the grant of any such stock options or other stock-based awards that vest within the restricted period, each recipient of such grant shall sign and deliver a lock-up agreement agreeing to be subject to the restrictions on transfer described above;

The filing by us of a registration statement on Form S-8 or any successor form thereto with respect to the registration of securities to be offered under any employee benefit or equity incentive plans described in this prospectus.

The issuance by us of up to an aggregate of 423,366 shares of common stock or securities convertible into or exercisable for common stock in connection with a transaction with an unaffiliated third party that includes a commercial relationship, including joint ventures, marketing or distribution arrangements, collaboration agreements or intellectual property license agreements, or an acquisition of assets or acquisition of a majority or controlling portion of the equity securities of another company, provided that any such third party signs and delivers a lock-up agreement agreeing to be subject to the restrictions on transfer described above;

Transactions by security holders relating to shares of common stock or other securities acquired in open market transactions after the completion of this offering, provided that no filing under Section 16(a) of the Exchange Act is required or is voluntarily made in connection with subsequent sales of common stock or other securities acquired in such open market transactions;

Sales or transfers by security holders of shares of common stock to us pursuant to the exercise on a net-issuance basis of any warrant outstanding on the date of the underwriting agreement of which the representatives have been advised in writing or that is described in this prospectus;

The exercise of any option or warrant to purchase shares of common stock outstanding on the date of the underwriting agreement of which the representatives have been advised in writing or that is described in this prospectus, provided that the underlying shares of common stock issued upon exercise remain subject to the restrictions imposed by the lock-up agreement;

Transfers or contributions by security holders of shares of common stock or any security convertible into common stock as a bona fide gift, in connection with estate planning or upon death by will or intestate succession;

Transfers or distributions by security holders of shares of common stock or any security convertible into common stock to limited partners, members, stockholders or affiliates of the security holder; or

Transfers or contributions by security holders of shares of common stock or any security convertible into common stock to any trust for the direct or indirect benefit of the security holder or the immediate family of the security holder;

provided that in the case of each of the preceding three types of transactions, each transferee or distributee signs and delivers a lock-up agreement agreeing to be subject to the restrictions on transfer described above and no filing under Section 16(a) of the Exchange Act, reporting a reduction in beneficial ownership of shares of common stock, is required or is voluntarily made during the restricted period.

The 180-day restricted period is subject to extension if (1) during the last 17 days of the restricted period we issue an earnings release or material news or a material event relating to us occurs or (2) prior to the expiration of the restricted period, we announce that we will release earnings results during the 16-day period beginning on the last day of the restricted period, in which case the restrictions imposed in the lock-up agreements will continue to apply until the

expiration of the 18-day period beginning on the issuance of the earnings release or the occurrence of the material news or material event.

Indemnification

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, and to contribute to payments that the underwriters may be required to make for these liabilities.

Table of Contents

The NASDAQ Global Market Listing

We have applied to have our common stock listed on The NASDAQ Global Market under the symbol PATH.

Price Stabilization, Short Positions and Penalty Bids

In order to facilitate the offering of our common stock, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of our common stock. In connection with the offering, the underwriters may purchase and sell our common stock in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales and stabilizing transactions. Short sales involve the sale by the underwriters of a greater number of shares of common stock than they are required to purchase in the offering.

Covered short sales are sales made in an amount not greater than the underwriters' option to purchase additional shares of common stock in the offering. The underwriters may close out any covered short position by either exercising their over-allotment option or purchasing shares of common stock in the open market. In determining the source of shares of common stock to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the over-allotment option. Naked short sales are sales in excess of the over-allotment option. The underwriters must close out any naked short position by purchasing shares of common stock in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of our common stock in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of shares of common stock made by the underwriters in the open market prior to the completion of the offering.

Similar to other purchase transactions, the underwriters' purchases to cover the syndicate short sales 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 may be higher than the price that might otherwise exist in the open market.

The underwriters have advised us that, pursuant to Regulation M of the Securities Act, they may also engage in other activities that stabilize, maintain or otherwise affect the price of our common stock, including the imposition of penalty bids. This means that if the representatives of the underwriters purchase common stock in the open market in stabilizing transactions or to cover short sales, the representatives can require the underwriters that sold those shares as part of this offering to repay the underwriting discount received by them.

The underwriters make no representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor the underwriters make any representation that the underwriters will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Electronic Offer, Sale and Distribution of Shares

A prospectus in electronic format may be made available on the websites maintained by one or more underwriters or selling group members, if any, participating in the offering. The underwriters may agree to allocate a number of shares of common stock to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives to underwriters and selling group members that may make Internet distributions on the same basis as other allocations. Other than the prospectus in electronic format, the information on the underwriters' websites and any information contained in any other website maintained by the underwriters is not part of this prospectus or the registration statement of which this prospectus forms a part.

Notice to Non-U.S. Investors

In relation to each member state of the European Economic Area that has implemented the Prospectus Directive, each of which we refer to as a relevant member state, with effect from and including the date on

Table of Contents

which the Prospectus Directive is implemented in that relevant member state, or the relevant implementation date, an offer of securities described in this prospectus may not be made to the public in that relevant member state other than:

To legal entities that 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;

To any legal entity that has two or more of (1) an average of at least 250 employees during the last financial year; (2) a total balance sheet of more than 43,000,000 and (3) an annual net turnover of more than 50,000,000, as shown in its last annual or consolidated accounts;

To fewer than 100 natural or legal persons (other than qualified investors as defined in the Prospectus Directive) subject to obtaining the prior consent of representatives for any such offer; or

In any other circumstances that do not require the publication of a prospectus pursuant to Article 3 of the Prospectus Directive;

provided that no such offer of securities shall require us or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an offer of shares to the public in relation to any shares of common stock 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 shares to be offered so as to enable an investor to decide to purchase or subscribe for the shares, as the same may be varied in that member state by any measure implementing the Prospectus Directive in that member state and the expression Prospectus Directive means Directive 2003/71/EC and includes any relevant implementing measure in each relevant member state.

Other Relationships

From time to time, certain of the underwriters and their affiliates have provided, and may provide in the future, various advisory, investment and commercial banking and other services to us in the ordinary course of business, for which they have received and may continue to receive customary fees and commissions.

Table of Contents

LEGAL MATTERS

The validity of the shares of common stock being offered by this prospectus will be passed upon for us by Morgan, Lewis & Bockius LLP, Philadelphia, Pennsylvania. Wilmer Cutler Pickering Hale and Dorr LLP, New York, New York, is acting as counsel for the underwriters in connection with this offering.

EXPERTS

The financial statements of NuPathe Inc. as of December 31, 2008 and 2009, and for each of the years in the three-year period ended December 31, 2009 and the period from January 7, 2005 (inception) through December 31, 2009, have been included herein and in this prospectus in reliance upon the report of KPMG LLP, independent registered public accounting firm, appearing elsewhere herein, and upon the authority of said firm as experts in accounting and auditing. The audit report covering the December 31, 2009 financial statements contains an explanatory paragraph that states that NuPathe has incurred recurring losses and negative cash flows from operations since its inception that raise substantial doubt about its ability to continue as a going concern. The financial statements do not include any adjustments that might result from the outcome of that uncertainty.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 (File Number 333-166825) under the Securities Act with respect to the shares of common stock we are offering by this prospectus. This prospectus, which constitutes a part of the registration statement, does not contain all of the information in the registration statement and its exhibits. For further information with respect to us and the common stock offered by this prospectus, you should refer to the registration statement and the exhibits to the registration statement. Statements contained in this prospectus as to the contents of any contract, agreement or any other document are not necessarily complete, and in each instance, we refer you to the copy of the contract, agreement or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference.

You may read and copy the registration statement for this offering at the SEC's Public Reference Room, which is located at 100 F Street, N.E., Room 1580, Washington, DC 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains an Internet website, which is located at <http://www.sec.gov> that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. You may access the registration statement for this offering at the SEC's Internet website.

Upon closing of this offering, we will be subject to the information and periodic reporting requirements of the Exchange Act, and we will file reports, proxy and information statements and other information with the SEC. These reports, proxy and information statements and other information will be available for inspection and copying at the Public Reference Room and website of the SEC, as described above.

INDEX TO FINANCIAL STATEMENTS

**NUPATHE INC.
(A Development-Stage Company)**

	Page
<u>Report of Independent Registered Public Accounting Firm</u>	F-2
<u>Balance Sheets</u>	F-3
<u>Statements of Operations</u>	F-4
<u>Statements of Redeemable Convertible Preferred Stock and Stockholders' Deficit</u>	F-5
<u>Statements of Cash Flows</u>	F-6
<u>Notes to Financial Statements</u>	F-7

Table of Contents

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
NuPathe Inc.:

We have audited the accompanying balance sheets of NuPathe Inc. (a development-stage company) (the Company) as of December 31, 2008 and 2009, and the related statements of operations, redeemable convertible preferred stock and stockholders' deficit, and cash flows for each of the years in the three-year period ended December 31, 2009 and the period from January 7, 2005 (inception) through December 31, 2009. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of NuPathe Inc. as of December 31, 2008 and 2009, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2009 and for the period from January 7, 2005 (inception) through December 31, 2009, in conformity with U.S. generally accepted accounting principles.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in note 2 to the financial statements, the Company has incurred recurring losses and negative cash flows from operations since its inception that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in note 2. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ KPMG LLP

Philadelphia, Pennsylvania
May 14, 2010, except as to
Note 3(m), which is as
of July 20, 2010

Table of Contents

NUPATHE INC.
(A Development-Stage Company)

Balance Sheets

	December 31,		March 31,	Pro Forma
	2008	2009	2010	March 31,
			Unaudited	2010
				Unaudited
				(See note 3)
ASSETS				
Current assets:				
Cash and cash equivalents	\$ 8,368,461	\$ 3,926,574	\$ 592,266	\$ 15,099,558
Prepaid expenses and other	1,139,878	918,878	827,913	827,913
Total current assets	9,508,339	4,845,452	1,420,179	15,927,471
Property and equipment, net	122,726	70,628	79,255	79,255
Other assets	144,521	93,053	80,186	283,441
Total assets	\$ 9,775,586	\$ 5,009,133	\$ 1,579,620	\$ 16,290,167

LIABILITIES AND STOCKHOLDERS EQUITY (DEFICIT)

Current liabilities:				
Current portion of long-term debt	\$ 890,929	\$ 818,139	\$ 564,287	\$ 9,079
Accounts payable	920,422	1,464,106	1,562,907	1,562,907
Accrued expenses	1,412,350	1,035,826	1,664,865	1,664,865
Total current liabilities	3,223,701	3,318,071	3,792,059	3,236,851
Long-term debt	782,096			5,000,000
Warrant liability	102,354	626,492	606,414	
Total liabilities	4,108,151	3,944,563	4,398,473	8,236,851
Commitments (note 9)				
Redeemable convertible preferred stock, \$0.001 par value; authorized 71,745,055 shares at March 31, 2010; issued and outstanding 42,205,062, 53,096,340, and 53,096,340 shares at December 31, 2008 and 2009 and March 31, 2010, respectively (liquidation value of \$57,167,232 at March 31, 2010)	41,808,630	55,538,191	56,571,590	
Stockholders equity (deficit):				
Common stock, \$0.001 par value; authorized 28,254,945 shares, issued and	452	390	392	8,900

Edgar Filing: NUPATHE INC. - Form S-1/A

outstanding 452,429, 390,676, 392,254
and 8,900,254 shares at December 31,
2008 and 2009, March 31, 2010 and
March 31, 2010 pro forma, respectively

Additional paid-in capital				67,435,251
Deficit accumulated during the development stage	(36,141,647)	(54,474,011)	(59,390,835)	(59,390,835)
Total stockholders equity (deficit)	(36,141,195)	(54,473,621)	(59,390,443)	8,053,316
Total liabilities and stockholders equity (deficit)	\$ 9,775,586	\$ 5,009,133	\$ 1,579,620	\$ 16,290,167

See accompanying notes to financial statements.

F-3

Table of Contents

NUPATHE INC.
(A Development-Stage Company)

Statements of Operations

	Year Ended December 31,			Period from January 7, 2005 (inception) through December 31, 2009	Three Months Ended March 31,		Period from January 2005 (inception through March 31, 2010
	2007	2008	2009	2009	2009 Unaudited	2010 Unaudited	2010 Unaudited
Operating expenses:							
Research and development	\$ 7,761,442	\$ 8,815,354	\$ 11,309,503	\$ 31,787,569	\$ 2,995,875	\$ 3,389,917	\$ 35,177,000
Acquired in-process research and development		5,500,000		5,500,000			5,500,000
General and administrative	1,883,822	3,075,084	3,142,253	9,827,382	796,315	873,018	10,700,000
Operating expenses	(9,645,264)	(17,390,438)	(14,451,756)	(47,114,951)	(3,792,190)	(4,262,935)	(51,377,000)
Interest income	222,866	157,622	30,437	526,473	18,932	767	527,000
Interest expense	(252,675)	(278,387)	(1,320,005)	(2,622,537)	(56,039)	(11,254)	(2,633,000)
Income before tax	(9,675,073)	(17,511,203)	(15,741,324)	(49,211,015)	\$ (3,829,297)	(4,273,422)	\$ (53,484,000)
Income tax benefit			151,012	151,012	151,012	320,381	471,000
Loss	(9,675,073)	(17,511,203)	(15,590,312)	\$ (49,060,003)	(3,678,285)	(3,953,041)	\$ (53,013,000)
Reduction of convertible preferred	(1,126,265)	(2,330,344)	(3,617,211)		(829,766)	(1,033,399)	
Loss applicable to common holders	\$ (10,801,338)	\$ (19,841,547)	\$ (19,207,523)		\$ (4,508,051)	\$ (4,986,440)	
Basic and diluted net loss per common	\$ (29.38)	\$ (51.98)	\$ (50.31)		\$ (11.81)	\$ (13.06)	
	367,691	381,681	381,789		381,789	381,842	

Weighted average and diluted common shares outstanding		
Adjusted pro forma loss	\$ (15,590,312)	\$ (3,953,041)
Adjusted pro forma and diluted net income per common share	\$ (2.04)	\$ (0.45)
Adjusted pro forma weighted average and diluted common shares outstanding	7,654,193	8,823,612

See accompanying notes to financial statements.

F-4

Table of Contents

NUPATHE INC.
(A Development-Stage Company)

Statements of Redeemable Convertible Preferred Stock and Stockholders Deficit
Period from January 7, 2005 (inception) through March 31, 2010

	Redeemable Convertible Preferred Stock		Common Stock		Stockholders Additional Paid-in Capital	Deficit Deficit Accumulated During the Development Stage	Total
	Shares	Amount	Shares	Amount			
Balance, January 7, 2005 (inception)		\$		\$	\$	\$	\$
Issuance of common stock to initial stockholders at \$0.33 per share			338,116	338	216,462		216,462
						(1,067,659)	(1,067,659)
Balance, December 31, 2005			338,116	338	216,462	(1,067,659)	(852,809)
Share-based compensation expense			114,158	114	43,996		43,996
Conversion of convertible preferred stock and accrued interest							
Issuance of Series A redeemable convertible preferred stock	3,481,645	2,590,343			647,587		647,587
Issuance of Series A redeemable convertible preferred stock at \$0.93 per share, net of expenses of \$0.058	8,064,516	7,232,542					7,232,542
Conversion of Series A redeemable convertible preferred stock to common stock at book value		340,998			(340,998)		(340,998)
						(5,215,756)	(5,215,756)
Balance, December 31, 2006	11,546,161	10,163,883	452,274	452	567,047	(6,283,415)	(5,712,043)
Share-based compensation expense					59,205		59,205
Issuance of Series A redeemable convertible preferred stock at \$0.93 per share, net of expenses of \$0.02	5,376,345	4,979,729					4,979,729
Conversion of Series A redeemable convertible preferred stock to common stock at book value		1,126,265			(626,252)		(626,252)
						(500,013)	(500,013)
Balance, March 31, 2010							

ed stock to tion value s						(9,675,073)	(9,675,073)
e, December 31,	16,922,506	16,269,877	452,274	452		(16,458,501)	(16,458,501)
based compensation se of stock options			155		158,176		158,176
Series A able convertible ed stock at \$0.93 per	2,688,171	2,499,999					
Series B able convertible ed stock at \$0.93 per net of expenses of 68	22,594,385	20,708,410					
on of Series A and B redeemable tible preferred stock mption value s		2,330,344			(158,401)	(2,171,943)	(2,330,344)
e, December 31,	42,205,062	41,808,630	452,429	452		(36,141,647)	(36,141,647)
based compensation ure of restricted			(61,753)	(62)	319,055		319,055
Series B able convertible ed stock at \$0.93 per net of expenses of 8	8,786,952	8,155,327					
ersion of convertible nd accrued interest ries B redeemable tible preferred stock cial conversion related to the tible note and t agreement	2,104,326	1,957,023				556,042	556,042
ed Care	37 %						
aid	12 %	13 %	12 %				
Pay and Other	26 %	26 %	26 %				
	27 %	26 %	25 %				
	100 %	100 %	100 %				

Medicare covers skilled nursing services for beneficiaries who require nursing care and/or rehabilitation services following a hospitalization of at least *three* consecutive days. For each eligible day a Medicare beneficiary is in a

skilled nursing facility, Medicare pays the facility a daily payment, subject to adjustment for certain factors such as a wage index in the geographic area. The payment covers all services provided by the skilled nursing facility for the beneficiary that day, including room and board, nursing, therapy and drugs, as well as an estimate of capital-related costs to deliver those services.

For homecare services, Medicare pays based on the acuity level of the patient and based on episodes of care. An episode of care is defined as a length of care up to 60 days with multiple continuous episodes allowed. The services covered by the episode payment include all disciplines of care, in addition to medical supplies, within the scope of the home health benefit. We are allowed to make a request for anticipated payment at the start of care equal to 60% of the expected payment for the initial episode. The remaining balance due is paid following the submission of the final claim at the end of the episode. Deferred revenue is recorded for payments received for which the related services have *not* yet been provided

Table of Contents

Medicaid is operated by individual states with the financial participation of the federal government. The states in which we operate currently use prospective cost-based reimbursement systems. Under cost-based reimbursement systems, the skilled nursing facility is reimbursed for the reasonable direct and indirect allowable costs it incurred in a base year in providing routine resident care services as defined by the program.

Private pay, managed care, and other payment sources include commercial insurance, individual patient funds, managed care plans and the Veterans Administration. Private paying patients, private insurance carriers and the Veterans Administration generally pay based on the healthcare facilities charges or specifically negotiated contracts. For private pay patients in skilled nursing, assisted living and independent living facilities, the Company bills for room and board charges, with the remittance being due on receipt of the statement and generally by the 10th day of the month the services are performed.

Certain managed care payors for homecare services pay on a per-visit basis. This non-episodic based revenue is recorded on an accrual basis based upon the date of services at amounts equal to its established or estimated per-visit rates.

Third Party Payors

Laws and regulations governing the Medicare and Medicaid programs are complex and subject to interpretation. Noncompliance with such laws and regulations can be subject to regulatory actions including fines, penalties, and exclusion from the Medicare and Medicaid programs. We believe that we are in compliance with all applicable laws and regulations.

Medicare and Medicaid program revenues, as well as certain Managed Care program revenues, are subject to audit and retroactive adjustment by government representatives or their agents. The Medicare PPS methodology requires that patients be assigned to Resource Utilization Groups ("RUGs") based on the acuity level of the patient to determine the amount paid to us for patient services. The assignment of patients to the various RUG categories is subject to post-payment review by Medicare intermediaries or their agents. Settlements with *third*-party payors for retroactive adjustments due to audits, reviews or investigations are considered variable consideration and are included in the determination of the estimated transaction price for providing patient care. These settlements are estimated based on the terms of the payment agreement with the payor, correspondence from the payor and the Company's historical settlement activity, including an assessment to ensure that it is probable that a significant reversal in the amount of cumulative revenue recognized will *not* occur when the uncertainty associated with the retroactive adjustment is subsequently resolved. Estimated settlements are adjusted in future periods as adjustments become known, or as years are settled or are *no* longer subject to such audits, reviews, and investigations. We believe currently that any differences between the net revenues recorded and final determination will *not* materially affect the consolidated financial statements. We have made provisions of approximately \$16,108,000 and \$17,389,000 as of December 31, 2018 and 2017, respectively, for various Medicare, Medicaid, and Managed Care claims reviews and

current and prior year cost reports.

Note 3 – Other Revenues

Other revenues are outlined in the table below. Revenues from insurance services include premiums for workers' compensation and professional liability insurance policies that our wholly-owned insurance subsidiaries have written for certain healthcare operators to which we provide management or accounting services. Revenues from management and accounting services include fees provided to manage and provide accounting services to other healthcare operators. Revenues from rental income include health care real estate properties owned by us and leased to *third* party operators. Other revenues include miscellaneous health care related earnings.

<i>(in thousands)</i>	Year Ended December 31,		
	2018	2017	2016
Insurance services	\$7,084	\$8,003	\$7,195
Management and accounting service fees	15,175	16,169	15,953
Rental income	22,262	21,957	21,835
Other	1,386	1,024	931
Gain on sale of skilled nursing facility	1,668	--	--
Total other revenues	\$47,575	\$47,153	\$45,914

Insurance Services

For workers' compensation insurance services, the premium revenues reflected in the consolidated statements of operations for the years ended *December 31, 2018, 2017* and *2016* were *\$4,392,000, \$5,300,000, and \$4,508,000*, respectively. Associated losses and expenses are reflected in the consolidated statements of operations as "Salaries, wages and benefits."

For professional liability insurance services, the premium revenues reflected in the consolidated statements of operations for the years ended *December 31, 2018, 2017* and *2016* were *\$2,692,000, \$2,703,000, and \$2,687,000*, respectively. Associated losses and expenses including those for self-insurance are included in the consolidated statements of operations as "Other operating costs and expenses".

Management Fees from National

We have managed skilled nursing facilities for National since 1988, and we currently manage *five* facilities. See Note 18 regarding our relationship with National.

During 2018, 2017 and 2016, National paid and we recognized approximately \$4,304,000, \$4,194,000, and \$3,777,000, respectively, of management fees and interest on management fees. Unrecognized and unpaid management fees and interest on management fees from National total \$21,398,000 and \$21,384,000 at December 31, 2018 and 2017, respectively.

Table of Contents

The unpaid fees from these *five* facilities, because collection of substantially all of the contract consideration was *not* probable when the performance obligation was satisfied, will be recognized as revenues only in the period in which the amounts are received as we have *no* remaining obligation for those services provided. Under the terms of our management agreement with National, the payment of these fees to us *may* be subordinated to other expenditures of the *five* skilled nursing facilities. We continue to manage these facilities so that we *may* be able to collect our fees in the future and because the incremental savings from discontinuing services to a facility *may* be small compared to the potential benefit. We *may* receive payment for the unrecognized management fees in whole or in part in the future only if cash flows from the operating and investing activities of centers or proceeds from the sale of the centers are sufficient to pay the fees. There can be *no* assurance that such future improved cash flows will occur.

Management Fees and Financial and Accounting Services for Other Healthcare Centers

During *2018* and *2017*, we provided management services to *seven* healthcare facilities (in addition to the *five* National centers) operated by *third* party owners. During *2016*, we provided management services to *six* healthcare facilities (in addition to the *five* National centers) operated by *third* party owners. For the years ended *December 31, 2018, 2017* and *2016*, we recognized management fees of *\$2,532,000, \$2,794,000* and *\$2,172,000* from these centers, respectively.

During *2018* and *2017*, we provided accounting and financial services to *20* healthcare facilities. *No* management services are provided for entities in which we provide accounting and financial services.

Rental Income

The health care properties currently owned and leased to *third* party operators are located in the states of Florida and Tennessee. These properties consist of *nine* skilled nursing facilities and *four* assisted living facilities. Effective *January 1, 2016*, we entered into a new triple net lease agreement for *eleven* of the *thirteen* properties. The new lease agreement is for a *ten*-year period and ends on *December 31, 2025*.

Gain on sale of skilled nursing facility

In *October 2018*, the Company sold a skilled nursing facility located in Madisonville, Kentucky. The total consideration paid to the Company was *\$4,300,000*, which resulted in a gain of *\$1,669,000*. The gain was recorded in "Other revenue" in the consolidated statement of operations.

Note 4 – Non-Operating Income

Non-operating income includes equity in earnings of unconsolidated investments, dividends and other realized gains and losses on marketable securities, interest income, and a gain on the acquisition of additional ownership interest of a behavioral health hospital.

Our most significant equity method investment is a 75.1% non-controlling ownership interest in Caris HealthCare L.P. (“Caris”), a business that specializes in hospice care services. In 2018, Caris' equity in earnings were negatively impacted by \$8,364,000 for the settlement of its Qui Tam legal matter (including legal fees), all of which were incurred during the *first two* quarters of the year. Please see Note 16 – *Contingencies and Commitments* for further detail describing the Caris’ legal investigation and settlement.

<i>(in thousands)</i>	Year Ended December 31,		
	2018	2017	2016
Equity in earnings of unconsolidated investments	\$1,020	\$6,932	\$6,636
Dividends and net realized gains on sale of securities	7,417	7,335	7,547
Interest income	7,183	6,172	5,482
Gain on acquisition of equity method investment	2,050	-	-
Total non-operating income	\$17,670	\$20,439	\$19,665

Gain on acquisition of equity method investment

In July 2018, the Company acquired a controlling financial interest of a 14-bed behavioral health hospital in Osage Beach, Missouri. We previously held a noncontrolling ownership interest and accounted for the hospital as an equity method investment. The operating results of the business have been included in the consolidated financial statements since the controlling interest acquisition date.

Upon acquiring a controlling financial interest in the investee, we valued the business and our previously held equity position based upon the hospital's fair value. This remeasurement of our equity interest at fair value resulted in a gain of \$2,050,000 during the *third* quarter of 2018. The gain was recorded in "Non-operating income" in the consolidated statement of operations. Additionally, the excess of the fair value over the amounts assigned to the assets and liabilities of the investee resulted in goodwill in the amount of \$3,395,000.

Table of Contents**Note 5 – Business Segments**

The Company has *two* reportable operating segments: (1) inpatient services, which includes the operation of skilled nursing facilities, assisted and independent living facilities, and our behavioral health hospital, and (2) homecare services. These reportable operating segments are consistent with information used by the Company’s Chief Executive Officer, as CODM, to assess performance and allocate resources.

The Company also reports an “all other” category that includes revenues from rental income, management and accounting services fees, insurance services, and costs of the corporate office. For additional information on these reportable segments see Note 1 - “*Summary of Significant Accounting Policies*”.

The Company’s CODM evaluates performance and allocates capital resources to each segment based on an operating model that is designed to improve the quality of patient care and profitability of the Company while enhancing long-term shareholder value. The CODM does *not* review assets by segment in his resource allocation and therefore, assets by segment are *not* disclosed below.

The following tables set forth the Company’s consolidated statements of operations by business segment (*in thousands*):

	Year Ended December 31, 2018			Total
	Inpatient Services	Homecare	All Other	
Revenues:				
Net patient revenues	\$872,912	\$ 59,862	\$-	\$932,774
Other revenues	2,494	-	45,081	47,575
Net operating revenues	875,406	59,862	45,081	980,349
Costs and Expenses:				
Salaries, wages and benefits	513,647	33,339	35,735	582,721
Other operating	225,133	19,566	9,339	254,038
Facility rent	33,052	1,945	5,926	40,923
Depreciation and amortization	38,372	229	3,293	41,894
Interest	1,504	-	3,193	4,697
Total costs and expenses	811,708	55,079	57,486	924,273

Edgar Filing: NUPATHE INC. - Form S-1/A

Income (loss) before non-operating income	63,698	4,783	(12,405)	56,076
Non-operating income	-	-	17,670	17,670
Unrealized gains on marketable securities	-	-	1,138	1,138
Income before income taxes	\$63,698	\$ 4,783	\$6,403	\$74,884

51

Table of Contents

<i>(As adjusted)</i>	Year Ended December 31, 2017			
	Inpatient Services	Homecare	All Other	Total
Revenues:				
Net patient revenues	\$853,662	\$ 63,080	\$-	\$916,742
Other revenues	663	-	46,490	47,153
Net operating revenues	854,325	63,080	46,490	963,895
Costs and Expenses:				
Salaries, wages and benefits	501,510	33,059	37,474	572,043
Other operating	221,414	20,855	7,564	249,833
Facility rent	32,744	1,980	5,643	40,367
Depreciation and amortization	38,246	177	4,229	42,652
Interest	1,719	-	3,171	4,890
Total costs and expenses	795,633	56,071	58,081	909,785
Income (loss) before non-operating income	58,692	7,009	(11,591)	54,110
Non-operating income	-	-	20,439	20,439
Income before income taxes	\$58,692	\$ 7,009	\$8,848	\$74,549

<i>(As adjusted)</i>	Year Ended December 31, 2016			
	Inpatient Services	Homecare	All Other	Total
Revenues:				
Net patient revenues	\$814,010	\$ 63,656	\$-	\$877,666
Other revenues	651	-	45,263	45,914
Net operating revenues	814,661	63,656	45,263	923,580
Costs and Expenses:				
Salaries, wages and benefits	480,058	32,597	35,352	548,007
Other operating	202,827	20,705	7,243	230,775
Facility rent	33,129	1,932	6,231	41,292
Depreciation and amortization	34,423	190	4,410	39,023
Interest	1,921	-	2,020	3,941
Total costs and expenses	752,358	55,424	55,256	863,038
Income (loss) before non-operating income	62,303	8,232	(9,993)	60,542
Non-operating income	-	-	19,665	19,665
Income before income taxes	\$62,303	\$ 8,232	\$9,672	\$80,207

Note 6 – Long-Term Leases

Capital Leases

Effective *March 1, 2014*, NHC began leasing and operating *three* senior healthcare facilities in the state of Missouri under *three* separate lease agreements. Two of the healthcare facilities are skilled nursing facilities that also include assisted living facilities and the *third* healthcare facility is a memory care facility. Each of the leases is a *ten*-year lease with *two* five-year renewal options. Under the terms of the leases, base rent totals \$5,200,000 annually with rent thereafter escalating by 4% of the increase in facility revenue over the 2014 base year. The leases also contain certain non-performance default provisions which resulted in capital lease classification. However, the initial measurement and recording of the capital lease assets and obligations does *not* include any expected payments under such default provisions, as the Company does *not* expect to incur an obligation for such payments.

Table of Contents

Fixed assets recorded under the capital leases, which are included in property and equipment in the consolidated balance sheets, are as follows (*in thousands*):

	December 31,	
	2018	2017
Buildings and personal property	\$39,032	\$39,032
Accumulated amortization	(18,970)	(15,045)
	\$20,062	\$23,987

Operating Leases

At *December 31, 2018*, we lease from NHI the real property of 35 skilled nursing facilities, *seven* assisted living centers and *three* independent living centers under *two* separate lease agreements. As part of the *first* lease agreement, we sublease *four* Florida skilled nursing facilities to a *third*-party operator.

On *January 1, 2007*, a *15-year* lease extension began which included *three* additional five-year renewal options. In *December 2012*, NHC extended the lease agreement through the *first* of the *three* additional five-year renewal options, which extended the lease date through 2026. The *two* additional five-year renewal options on the lease still remain. Under the terms of the lease, base rent totals \$30,750,000 with rent thereafter escalating by 4% of the increase in facility revenue over a 2007 base year.

In *September 2013* and under the *second* lease agreement, NHC began operating *seven* skilled nursing facilities in New Hampshire and Massachusetts. The *15-year* lease term consists of base rent of \$3,450,000 annually with rent escalating by 4% of the increase in facility revenue over a 2014 base year. Additionally, NHC has the option to purchase the *seven* facilities from NHI in the *13th* year of the lease for a purchase price of \$49,000,000.

Base rent expense under both NHI lease agreements totals \$34,200,000. Percentage rent under the leases is based on a quarterly calculation of revenue increases and is payable on a quarterly basis. Percentage rent expense under both leases for 2018, 2017, and 2016 was approximately \$3,713,000, \$3,057,000, and \$3,720,000, respectively.

Each lease with NHI is a "triple net lease" under which we are responsible for paying all taxes, utilities, insurance premium costs, repairs and other charges relating to the ownership of the facilities. We are obligated at our expense to maintain adequate insurance on the facilities' assets.

We have a right of *first* refusal with NHI to purchase any of the properties should NHI receive an offer from an unrelated party during the term of the lease or up to 180 days after termination of the related lease.

Minimum Lease Payments

The approximate future minimum lease payments required under all leases that have remaining non-cancelable lease terms at *December 31, 2018* are as follows (*in thousands*):

	Operating	Capital
	Leases	Leases
2019	\$ 34,200	\$ 5,200
2020	34,200	5,200
2021	34,200	5,200
2022	34,200	5,200
2023	34,200	5,200
Thereafter	108,350	867
Total minimum lease payments	\$ 279,350	\$ 26,867
Less: amounts representing interest		(3,815)
Present value of minimum lease payments		23,052
Less: current portion		(3,924)
Long-term capital lease obligations		\$ 19,128

Table of Contents**Note 7 – Earning Per Share**

The following table summarizes the earnings and the weighted average number of common shares used in the calculation of basic and diluted earnings per share (*in thousands, except share and per share amounts*):

	Year Ended December 31,		
	2018	2017	2016
Basic:			
Weighted average common shares outstanding	15,224,886	15,189,920	15,134,518
Net income attributable to common stockholders of National Healthcare Corporation	\$58,964	\$56,205	\$50,538
Earnings per common share, basic	\$3.87	\$3.70	\$3.34
Diluted:			
Weighted average common shares outstanding	15,224,886	15,189,920	15,134,518
Dilutive effect of stock options	11,940	29,042	24,176
Dilutive effect of contingent issuable stock	--	–	48,303
Assumed average common shares outstanding	15,236,826	15,218,962	15,206,997
Net income attributable to common stockholders of National Healthcare Corporation	\$58,964	\$56,205	\$50,538
Earnings per common share, diluted	\$3.87	\$3.69	\$3.32

Note 8 – Investments in Marketable Securities

Our investments in marketable securities include marketable equity securities and marketable debt securities. Our marketable debt securities are classified as available for sale securities. Realized gains and losses from securities sales are determined on the specific identification of the securities. Marketable securities and restricted marketable securities consist of the following:

	December 31, 2018	December 31, 2017
(<i>in thousands</i>)	Amortized Fair	Amortized Fair

Edgar Filing: NUPATHE INC. - Form S-1/A

	Cost	Value	Cost	Value
Investments available for sale:				
Marketable equity securities	\$30,176	\$140,223	\$30,176	\$139,085
Restricted investments available for sale:				
Corporate debt securities	69,439	67,632	65,107	65,461
Asset-backed securities	62,772	62,068	54,030	53,544
U.S. Treasury securities	22,038	21,457	21,685	21,172
State and municipal securities	21,818	21,436	26,455	26,218
	\$206,243	\$312,816	\$197,453	\$305,480

Included in the marketable equity securities are the following (*in thousands, except share amounts*):

	December 31, 2018			December 31, 2017		
	Shares	Cost	Fair Value	Shares	Cost	Fair Value
NHI Common Stock	1,630,642	\$24,734	\$123,179	1,630,642	\$24,734	\$122,918

The amortized cost and estimated fair value of debt securities classified as available for sale, by contractual maturity, are as follows:

	December 31, 2018		December 31, 2017	
	Cost	Fair Value	Cost	Fair Value
(<i>in thousands</i>)				
Maturities:				
Within 1 year	\$11,448	\$11,401	\$18,492	\$18,499
1 to 5 years	98,487	97,430	70,331	70,157
6 to 10 years	64,932	62,527	77,657	76,943
Over 10 years	1,200	1,235	797	796
	\$176,067	\$172,593	\$167,277	\$166,395

Table of Contents

Gross unrealized gains related to marketable equity securities are \$110,081,000 and \$108,934,000 as of *December 31, 2018* and *2017*, respectively. Gross unrealized losses related to marketable equity securities are \$34,000 and \$24,000 as of *December 31, 2018* and *2017*, respectively. For the year ended *December 31, 2018*, the Company recognized a net unrealized gain of \$1,138,000 in the consolidated statements of operations.

Gross unrealized gains related to available for sale marketable debt securities are \$335,000 and \$823,000 as of *December 31, 2018* and *2017*, respectively. Gross unrealized losses related to available for sale marketable debt securities are \$3,809,000 and \$1,705,000 as of *December 31, 2018* and *2017*, respectively.

For the marketable securities in gross unrealized loss positions, (a) it is more likely than *not* that the Company will *not* be required to sell the investment securities before recovery of the unrealized losses, and (b) the Company expects that the contractual principal and interest will be received on the investment securities. As a result, the Company recognized *no* other-than-temporary impairment for the years ended *December 31, 2018* and *2017*.

Proceeds from the sale of available for sale marketable debt securities during the years ended *December 31, 2018*, *2017*, and *2016* were \$4,539,000, \$50,197,000, and \$34,642,000, respectively. Net investment gains of \$18,000, \$262,000, and \$816,000 were realized on these sales during the years ended *December 31, 2018*, *2017*, and *2016*, respectively. *No* sales were reported for the marketable equity securities for the years ended *December 31, 2018*, *2017*, and *2016*.

Note 9 – Fair Value Measurements

The accounting standard for fair value measurements provides a framework for measuring fair value and requires expanded disclosures regarding fair value measurements. Fair value is defined as the price that would be received for an asset or the exit price that would be paid to transfer a liability in the principal or most advantageous market in an orderly transaction between market participants on the measurement date. This accounting standard establishes a fair value hierarchy, which requires an entity to maximize the use of observable inputs, where available. The following summarizes the *three* levels of inputs that *may* be used to measure fair value:

Level 1 – The valuation is based on quoted prices in active markets for identical instruments.

Level 2 – The valuation is based on observable inputs such as quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are *not* active, and model-based valuation techniques

for which all significant assumptions are observable in the market.

Level 3 – The valuation is based on unobservable inputs that are supported by minimal or *no* market activity and that are significant to the fair value of the instrument. *Level 3* valuations are typically performed using pricing models, discounted cash flow methodologies, or similar techniques that incorporate management’s own estimates of assumptions that market participants would use in pricing the instrument, or valuations that require significant management judgment or estimation.

A financial instrument’s level within the fair value hierarchy is based on the lowest level of input that is significant to the fair value measurement.

Valuation of Marketable Securities

The Company determines fair value for marketable securities with *Level 1* inputs through quoted market prices. The Company determines fair value for marketable securities with *Level 2* inputs through broker or dealer quotations or alternative pricing sources with reasonable levels of price transparency. Our *Level 2* marketable securities have been initially valued at the transaction price and subsequently valued, at the end of each month, typically utilizing *third* party pricing services or other market observable data. The pricing services utilize industry standard valuation models, including both income and market-based approaches and observable market inputs to determine value. These observable market inputs include reportable trades, benchmark yields, credit spreads, broker/dealer quotes, bids, offers, and other industry and economic events.

We validated the prices provided by our broker by reviewing their pricing methods, obtaining market values from other pricing sources, analyzing pricing data in certain instances and confirming that the relevant markets are active. After completing our validation procedures, we did *not* adjust or override any fair value measurements provided by our broker as of *December 31, 2018* or *2017*.

Other

The carrying amounts of cash and cash equivalents, restricted cash and cash equivalents, accounts receivable, and accounts payable approximate fair value due to their short-term nature. The estimated fair value of notes receivable approximates the carrying value based principally on their underlying interest rates and terms, maturities, collateral and credit status of the receivables. Our long-term debt approximates fair value due to variable interest rates. At *December 31, 2018* and *2017*, there were *no* material differences between the carrying amounts and fair values of NHC’s financial instruments.

Table of Contents

The following table summarizes fair value measurements by level at *December 31, 2018* and *December 31, 2017* for assets and liabilities measured at fair value on a recurring basis (*in thousands*):

	Fair Value	Fair Value Measurements Using			
		Quoted Prices in Active Markets For Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	
December 31, 2018					
Cash and cash equivalents	\$43,247	\$43,247	\$ –	\$ –	–
Restricted cash and cash equivalents	11,673	11,673	–	–	–
Marketable equity securities	140,223	140,223	–	–	–
Corporate debt securities	67,632	47,921	19,711	–	–
Asset-backed securities	62,068	–	62,068	–	–
U.S. Treasury securities	21,457	21,457	–	–	–
State and municipal securities	21,436	–	21,436	–	–
Total financial assets	\$367,736	\$264,521	\$ 103,215	\$ –	–

	Fair Value	Fair Value Measurements Using			
		Quoted Prices in Active Markets For Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	
December 31, 2017					
Cash and cash equivalents	\$59,118	\$59,118	\$ –	\$ –	–
Restricted cash and cash equivalents	8,303	8,303	–	–	–
Marketable equity securities	139,085	139,085	–	–	–
Corporate debt securities	65,461	43,073	22,388	–	–
Asset-backed securities	53,544	–	53,544	–	–
U.S. Treasury securities	21,172	21,172	–	–	–
State and municipal securities	26,218	–	26,218	–	–

Total financial assets	\$372,901	\$270,751	\$102,150	\$	–
------------------------	-----------	-----------	-----------	----	---

Note 10 – Property and Equipment

Property and equipment, at cost, consists of the following (*in thousands*):

	December 31,	
	2018	2017
Land	\$59,300	\$59,778
Leasehold improvements	118,142	114,480
Buildings and improvements	611,516	603,289
Furniture and equipment	171,058	167,564
Construction in progress	19,072	13,637
Property and equipment, at cost	979,088	958,748
Less: Accumulated depreciation	(444,438)	(409,429)
Net property and equipment	\$534,650	\$549,319

The Company estimates the cost to complete construction in progress is approximately \$774,000 at *December 31, 2018*.

Note 11 – Notes Receivable

At *December 31, 2018* and *2017*, we have notes receivable from healthcare facilities totaling \$10,996,000 and \$13,251,000, respectively, reflected in the accompanying consolidated balance sheets. The notes include a working capital loan and a *first* mortgage, both with 8% fixed interest rates and periodic payments required prior to maturity. The notes mature in the years 2020 and 2022.

Table of Contents**Note 12 – Long-Term Debt**

Long-term debt consists of the following (*dollars in thousands*):

	Interest Rate at Dec. 31, 2018	Maturities	December 31,	
			2018	2017
Credit Facility, interest payable monthly	Variable, 3.9%	2020	\$55,000	\$90,000
Unsecured term note payable to National, interest payable quarterly, principal payable at maturity	--	2028	–	10,000
			55,000	100,000
Less current portion			–	–
			\$55,000	\$100,000

\$110,000,000 Credit Facility

In *October 2015*, we entered into a *\$175 million* credit facility that has a *five-year* maturity date (*October 2020*). Loans bear interest at either (i) LIBOR plus *1.40%* or (ii) the base rate plus *0.40%*. The base rate is defined as the highest of (a) the Federal Funds Rate plus $\frac{1}{2}$ of *1%*, (b) the Bank of America prime rate, and (c) LIBOR plus *1.00%*. The credit facility is available for general corporate purposes, including working capital and acquisitions. NHC is permitted, upon required notice to the lender, to prepay the loans outstanding under the credit facility at any time, without penalty.

During the *second* quarter of *2018*, the Company lowered the available borrowing capacity of the credit facility from *\$175 million* to *\$150 million*. During the *third* quarter of *2018*, the Company lowered the available borrowing capacity of the credit facility from *\$150 million* to *\$110 million*.

The Credit Agreement contains customary representations and financial covenants, including covenants that restrict, among other things, asset dispositions, mergers and acquisitions, dividends, restricted payments, debt, liens, investments and affiliate transactions. The Credit Agreement contains customary events of default.

The aggregate maturities of long-term debt for the *five* years subsequent to *December 31, 2018* are as follows (*in thousands*):

	Long-Term
	Debt
2019	\$ –
2020	55,000
2021	--
2022	–
2023	–
Thereafter	--
Total	\$ 55,000

Note 13 – Income Taxes

The provision for income taxes is comprised of the following components (*in thousands*):

	Year Ended December 31,		
	2018	2017	2016
Current Tax Provision			
Federal	\$13,583	\$23,038	\$24,012
State	1,612	2,150	661
Total current tax provision	15,195	25,188	24,673
Deferred Tax Provision			
Federal	610	(6,548)	4,208
State	380	227	788
Total deferred tax provision	990	(6,321)	4,996
Income Tax Provision	\$16,185	\$18,867	\$29,669

Table of Contents

The deferred tax assets and liabilities, consisting of temporary differences tax effected at the respective income tax rates, are as follows (*in thousands*):

	December 31,	
	2018	2017
Deferred tax assets:		
Allowance for doubtful accounts receivable	\$48	\$1,304
Accrued risk reserves	1,433	1,288
Accrued expenses	5,504	5,556
Financial reporting depreciation in excess of tax depreciation	6,340	5,301
Stock based compensation	959	607
Non-refundable entrance fees	103	121
Obligation to provide future services	580	747
Deferred revenue	3,480	2,753
State net operating loss carryforwards	5,762	4,732
Total gross deferred tax assets	24,209	22,409
Less: Valuation allowance	(5,762)	(4,732)
Deferred tax assets less valuation allowance	\$18,447	\$17,677
Deferred tax liabilities:		
Unrealized gains on marketable securities	\$(28,032)	\$(28,278)
Deferred gain on sale of assets, net	(2,146)	(2,078)
Book basis in excess of tax basis of intangible assets	(1,748)	(1,337)
Book basis in excess of tax basis of securities	(1,889)	(1,585)
Long-term investments	(3,182)	(2,775)
Total deferred tax liabilities	\$(36,997)	\$(36,053)
Net deferred tax liability	\$(18,550)	\$(18,376)

A reconciliation of income tax expense and the amount computed by applying the statutory federal income tax rate to income before income taxes is as follows (*in thousands*):

	Year Ended December 31,		
	2018	2017	2016
Tax provision at federal statutory rate	\$15,726	\$26,092	\$28,072
Increase (decrease) in income taxes resulting from:			
Tax expense from minority interest	71	204	-
State, net of federal benefit	3,213	2,647	1,783
Nondeductible expenses	478	230	156
Return to provision	(1,418)	-	-
Share based payments	(136)	(237)	-
Insurance expense	(128)	(103)	27

Edgar Filing: NUPATHE INC. - Form S-1/A

Revalue tax assets/liabilities due to federal tax reform	-	(8,488)	-
Other, net	15	(338)	283
Unrecognized tax benefits	586	613	716
Expiration of statute of limitations	(2,222)	(1,753)	(1,368)
Total increases (decreases)	459	(7,225)	1,597
Effective income tax expense	\$16,185	\$18,867	\$29,669

The exercise of non-qualified stock options results in state and federal income tax benefits to the Company related to the difference between the market price at the date of exercise and the option exercise price. During 2018, 2017 and 2016, \$136,000, \$237,000, and \$(1,096,000), respectively, attributable to the tax (expense) benefit of stock options exercised and restricted stock vested, was recorded. Beginning in 2017, such tax benefits are recorded in the income statement. In 2016, and prior years, such tax benefits were recorded to capital in excess of par value.

Our deferred tax assets have been evaluated for realization based on historical taxable income, tax planning strategies, the expected timing of reversals of existing temporary differences and future taxable income anticipated. Our deferred tax assets, with the exception of certain state tax net operating losses, are more likely than *not* to be realized in full due to the existence of sufficient taxable income of the appropriate character under the tax law. As such, the only valuation allowance relates to state tax net operating losses.

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (“2017 Tax Act”) was signed into law making significant changes to the Internal Revenue Code. The SEC issued Staff Accounting Bulletin No. 118 (“SAB 118”), which provides guidance on accounting for the tax effects of the 2017 Tax Act. As of December 31, 2017, we made a reasonable estimate that the revaluation of our net deferred tax liability using the new federal corporate tax rates resulted in a provisional net tax benefit of \$8,488,000, which reduced our net deferred tax liability balance. After analyzing existing statute and additional guidance on the 2017 Tax Act, we have *not* made any adjustments to the provisional adjustment made as of December 31, 2017.

Table of Contents

Uncertain tax positions *may* arise where tax laws *may* allow for alternative interpretations or where the timing of recognition of income is subject to judgment. We believe we have adequate provisions for unrecognized tax benefits related to uncertain tax positions. However, because of uncertainty of interpretation by various tax authorities and the possibility that there are issues that have *not* been recognized by management, we cannot guarantee we have accurately estimated our tax liabilities. We believe that our liabilities reflect the anticipated outcome of known uncertain tax positions in conformity with ASC Topic 740 *Income Taxes*. Our liabilities for unrecognized tax benefits are presented in the consolidated balance sheets within other noncurrent liabilities.

Also, under ASC Topic 740, tax positions are evaluated for recognition using a more-likely-than-not threshold, and those tax positions requiring recognition are measured at the largest amount of tax benefit that is greater than 50 percent likely of being realized upon ultimate settlement with a taxing authority that has full knowledge of all relevant information.

In accordance with current guidance, the Company has established a liability for unrecognized tax benefits, which are differences between a tax position taken or expected to be taken in a tax return and the benefit recognized and measured. Generally, a liability is created for an unrecognized tax benefit because it represents a company's potential future obligation to a taxing authority for a tax position that was *not* recognized per above.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows (*in thousands*):

	Deferred	Liability For	For	Liability
	Tax	Unrecognized	Interest	Total
	Asset	Tax Benefits	and	
			Penalties	
Balance, January 1, 2016	\$ 7,818	\$ 13,162	\$ 3,132	\$ 16,294
Additions based on tax positions related to the current year	1,249	1,249	-	1,249
Additions for tax positions of prior years	481	718	934	1,652
Reductions for statute of limitation expirations	(1,525)	(2,164)	(729)	(2,893)
Balance, December 31, 2016	8,023	12,965	3,337	16,302
Additions based on tax positions related to the current year	1,219	1,219	-	1,219
Additions for tax positions of prior years	342	844	865	1,709
Reductions for statute of limitation expirations	(1,682)	(2,508)	(927)	(3,435)
Revaluation due to federal tax reform	(2,854)	-	-	-
Balance, December 31, 2017	5,048	12,520	3,275	15,795
Additions based on tax positions related to the current year	811	811	-	811

Edgar Filing: NUPATHE INC. - Form S-1/A

Additions for tax positions of prior years	209	388	937	1,325
Reductions for statute of limitation expirations	(505)	(1,786)	(941)	(2,727)
Balance, December 31, 2018	\$ 5,563	\$ 11,933	\$ 3,271	\$ 15,204

During the year ended *December 31, 2018*, we have recognized a *\$1,786,000* decrease in unrecognized tax benefits and an accompanying *\$941,000* decrease of related interest and penalties due to the effect of statute of limitations lapse. The favorable impact on our tax provision was *\$2,222,000*. During the years ended *December 31, 2017* and *2016*, the favorable impact on our tax provision due to the effect of statute of limitations lapsing was *\$1,753,000* and *\$1,368,000*, respectively.

Unrecognized tax benefits of *\$6,911,000*, net of federal benefit at *December 31, 2018*, attributable to permanent differences, would favorably impact our effective tax rate if recognized. We do *not* expect significant increases or decreases in unrecognized tax benefits within the *twelve* months beginning *December 31, 2018*, except for the effect of decreases related to the lapse of statute of limitations estimated at *\$2,460,000*.

Interest and penalties expense related to U.S. federal and state income tax returns are included within income tax expense. Interest and penalties expense (benefit) was *\$(4,000)*, *\$(62,000)*, and *\$205,000* for the years ended *December 31, 2018, 2017, and 2016*, respectively.

The Company is *no* longer subject to U.S. federal and state examinations by tax authorities for years before *2015* (with few state exceptions).

Note 14 – Stock Repurchase Program

In *August 2018*, the Board of Directors authorized a common stock purchase program. The program will allow for repurchases of up to *\$25* million of its common stock. The stock repurchase plan began on *September 1, 2018* and will expire on *August 31, 2019*. *No* repurchases have been made under this plan.

During the *first* quarter of *2018* and under a previous plan which expired on *August 31, 2018*, the Company repurchased *14,506* shares of its common stock for a total cost of *\$867,000*. The shares were funded from cash on hand and were cancelled and returned to the status of authorized but unissued.

On *August 5, 2016* and under a previous plan which expired on *August 31, 2017*, the Company repurchased *130,000* shares of its common stock for a total cost of *\$8,195,000*. The shares were funded from cash on hand and were cancelled and returned to the status of authorized but unissued.

Under the common stock repurchase program, the Company *may* repurchase its common stock from time to time, in amounts and at prices the Company deems appropriate, subject to market conditions and other considerations. The Company's repurchases *may* be executed using open market purchases, privately negotiated agreements or other transactions. The Company intends to fund repurchases under the new stock repurchase programs from cash on hand, available borrowings or proceeds from potential debt or other capital market sources. The stock repurchase programs *may* be suspended or discontinued at any time without prior notice. The Company will provide an update regarding any purchases made pursuant to the stock repurchase programs each time it reports its results of operations.

Table of Contents

Note 15 – Stock-Based Compensation

NHC recognizes stock-based compensation for all stock options and restricted stock granted over the requisite service period using the fair value for these grants as estimated at the date of grant either using the Black-Scholes pricing model for stock options or the quoted market price for restricted stock.

The Compensation Committee of the Board of Directors ("the Committee") has the authority to select the participants to be granted options; to designate whether the option granted is an incentive stock option ("ISO"), a non-qualified option, or a stock appreciation right; to establish the number of shares of common stock that *may* be issued upon exercise of the option; to establish the vesting provision for any award; and to establish the term any award *may* be outstanding. The exercise price of any ISO's granted will *not* be less than 100% of the fair market value of the shares of common stock on the date granted and the term of an ISO *may not* be any more than *ten* years. The exercise price of any non-qualified options granted will *not* be less than 100% of the fair market value of the shares of common stock on the date granted unless so determined by the Committee.

In *May 2010*, our stockholders approved the *2010 Omnibus Equity Incentive Plan* ("the Equity Plan") pursuant to which *1,200,000* shares of our common stock were available to grant as stock-based payments to key employees, directors, and non-employee consultants. In *May 2015*, our stockholders approved to amend the Equity Plan to increase the number of shares of our common stock authorized from the original *1,200,000* shares to *2,575,000* shares. At *December 31, 2018*, *601,244* shares were available for future grants under the Equity Plan.

Additionally, we have an employee stock purchase plan that allows employees to purchase our shares of stock through payroll deductions. The plan allows employees to terminate participation at any time.

Compensation expense is recognized only for the awards that ultimately vest. The Company accounts for forfeitures when they occur. Stock-based compensation totaled *\$1,778,000*, *\$1,678,000*, and *\$509,000*, for the years ended *December 31, 2018, 2017, and 2016*, respectively. Stock-based compensation is included in salaries, wages and benefits in the consolidated statements of operations. Tax deductions for the options exercised totaled *\$1,047,000*, *\$933,000*, and *\$5,680,000* for the years ended *December 31, 2018, 2017, and 2016*, respectively. The total intrinsic value of shares exercised was *\$1,047,000*, *\$933,000*, and *\$7,431,000* for the years ended *December 31, 2018, 2017 and 2016*, respectively.

At *December 31, 2018*, the Company had *\$4,961,000* of unrecognized compensation cost related to unvested stock-based compensation awards. This unrecognized compensation cost will be amortized over an approximate *three-year* period.

Stock Options

The Company is required to estimate the fair value of stock-based awards on the date of grant. The fair value of each option award is estimated using the Black-Scholes option valuation model with the weighted average assumptions indicated in the following table. Each grant is valued as a single award with an expected term based upon expected employment and termination behavior. Compensation cost is recognized over the requisite service period in a manner consistent with the option vesting provisions. The straight-line attribution method requires that compensation expense is recognized at least equal to the portion of the grant-date fair value that is vested at that date. The expected volatility is derived using weekly historical data for periods immediately preceding the date of grant. The risk-free interest rate is the approximate yield on the United States Treasury Strips having a life equal to the expected option life on the date of grant. The expected life is an estimate of the number of years an option will be held before it is exercised. The following table summarizes the assumptions used to value the options granted in the periods shown.

	Year Ended		
	December 31,		
	2018	2017	2016
Risk-free interest rate	2.46%	2.08%	0.89%
Expected volatility	16.1%	16.6%	15.8%
Expected life, in years	3.0	4.8	2.2
Expected dividend yield	3.29%	3.10%	3.09%

The following table summarizes option activity:

	Number of Shares	Weighted Average Exercise Price	Aggregate Intrinsic Value
Options outstanding at January 1, 2016	621,390	\$ 48.15	\$—
Options granted	56,291	62.54	—
Options exercised	(499,066)	47.16	—
Options cancelled	(656)	46.69	—
Options outstanding at December 31, 2016	177,959	55.48	—
Options granted	1,125,443	72.96	—
Options exercised	(48,995)	51.25	—
Options cancelled	(15,000)	72.94	—
Options outstanding at December 31, 2017	1,239,407	71.19	--
Options granted	110,265	61.39	--
Options exercised	(68,291)	54.31	--
Options cancelled	(118,000)	72.11	--
Options outstanding at December 31, 2018	1,163,381	\$ 71.16	\$8,483,000

Options exercisable at December 31, 2018 *185,881* *\$ 64.41* *\$2,609,000*

60

Table of Contents

Options	Exercise Prices		Weighted Average Exercise Price	Weighted Average Remaining Contractual Life in Years
Outstanding				
December 31, 2018				
175,106	\$52.93–	\$62.78	\$ 61.10	2.8
988,275	\$72.94		72.94	3.2
1,163,381			\$ 71.16	3.1

Note 16 – Contingencies and Guarantees*Accrued Risk Reserves*

We are self-insured for risks related to health insurance and have wholly-owned limited purpose insurance companies that insure risks related to workers' compensation and general and professional liability insurance claims both for our owned or leased entities and certain of the entities to which we provide management or accounting services. The liability we have recognized for reported claims and estimates for incurred but unreported claims totals \$96,024,000 and \$93,275,000 at *December 31, 2018* and *2017*, respectively. The liability is included in accrued risk reserves in the consolidated balance sheets. The amounts are subject to adjustment for actual claims incurred. It is possible that these claims plus unasserted claims could exceed our insurance coverages and our reserves, which would have a material adverse effect on our financial position, results of operations and cash flows.

As a result of the terms of our insurance policies and our use of wholly-owned limited purpose insurance companies, we have retained significant insurance risk with respect to workers' compensation and general and professional liability. We use independent actuaries to assist management in estimating our exposures for claims obligations (for both asserted and unasserted claims) related to deductibles and exposures in excess of coverage limits, and we maintain reserves for these obligations. Such estimates are based on many variables including historical and statistical information and other factors.

Workers' Compensation

For workers' compensation, we utilize a wholly-owned Tennessee domiciled property/casualty insurance company to write coverage for NHC affiliates and for third-party customers. Policies are written for a duration of *twelve* months and cover only risks related to workers' compensation losses. All customers are companies which operate in the long-term care industry. Business is written on a direct basis. For direct business, coverage is written for statutory limits and the insurance company's losses in excess of \$1,000,000 per claim are covered by reinsurance.

General and Professional Liability Insurance and Lawsuits

The senior care industry has experienced significant increases in both the number of personal injury/wrongful death claims and in the severity of awards based upon alleged negligence by skilled nursing facilities and their employees in providing care to residents. As of *December 31, 2018*, we and/or our managed facilities are currently defendants in 59 claims.

Insurance coverage for all years includes primary policies and excess policies. The primary coverage is in the amount of \$1.0 million per incident, \$3.0 million per location with an annual primary policy aggregate limit that is adjusted on an annual basis. For 2018, the excess coverage is \$9.0 million per occurrence. Additional insurance is purchased through *third* party providers that serve to supplement the coverage provided through our wholly-owned captive insurance company.

There is certain additional litigation incidental to our business, *none* of which, based upon information available to date, would be material to our financial position, results of operations, or cash flows. In addition, the long-term care industry is continuously subject to scrutiny by governmental regulators, which could result in litigation or claims related to regulatory compliance matters.

Caris HealthCare, L.P. Investigation and Related Litigation

On *December 9, 2014*, Caris Healthcare, L.P., a business that specializes in hospice care services in Company-owned health care centers and in other settings, received notice from the U.S. Attorney's Office for the Eastern District of Tennessee and the Attorney Generals' Offices for the State of Tennessee and State of Virginia that those government entities were conducting an investigation regarding patient eligibility for hospice services provided by Caris precipitated by a *qui tam* lawsuit. We have a 75.1% non-controlling ownership interest in Caris.

A *qui tam* lawsuit was filed on *May 22, 2014*, in the U.S. District Court for the Eastern District of Tennessee by a former Caris employee, Barbara Hinkle, and is captioned United States of America, State of Tennessee, and State of Virginia ex rel. Barbara Hinkle v. Caris Healthcare, L.P., *No. 3:14-cv-212* (E.D. Tenn.).

On *June 16, 2016*, the State of Tennessee and the State of Virginia declined to intervene in the qui tam lawsuit. On *June 20, 2016*, the Court ordered that the complaint be unsealed. On *October 11, 2016*, the United States filed a Complaint in Intervention against Caris Healthcare, L.P. and Caris Healthcare, LLC, a wholly owned subsidiary of Caris Healthcare, L.P. The United States' complaint alleged that Caris billed the government for ineligible hospice patients between *June 2013* and *December 2013* and retained overpayments regarding ineligible hospice patients from *April 2010* through *June 2013*.

On *March 9, 2018*, Caris and the United States jointly moved for a partial *90-day* stay of the case to allow the parties to finalize a settlement in principle of the action. That settlement was finalized on *June 25, 2018*, in which Caris agreed to pay \$8.5 million plus interest for a full release associated with the alleged submission of false claims and alleged retention of overpayments from Medicare for hospice services provided between *April 1, 2010*, and *December 31, 2013*. On *June 28, 2018*, the District Court entered an Order in connection with the parties' Joint Stipulation of Dismissal, which dismissed the action with prejudice as to the Hinkle and Hinkle's bankruptcy trustee, with prejudice to the United States with respect to the conduct released by the settlement, and without prejudice to the United States with respect to all remaining claims. The District Court's Order concludes this litigation.

Table of Contents

Nutritional Support Services, L.P., Qui Tam Litigation

On *June 19, 2018*, a First Amended Complaint was filed naming Nutritional Support Services, L.P. (“NSS”), a wholly-owned subsidiary of the Company, as a defendant in the action captioned U.S. ex rel. McClain v. Nutritional Support Services, L.P., *No. 6:17-cv-2608-AMQ* (D.S.C.), which was filed in the United States District Court for the District of South Carolina. The action alleges that NSS violated the False Claims Act by reporting a National Drug Code (“NDC”) number that did *not* correspond to the NDC for dispensed prescriptions. On *April 16, 2018*, the United States filed a Notice of Election to Decline Intervention with respect to the allegations asserted in this action. NSS intends to vigorously defend itself with respect to this action.

Governmental Regulations

Laws and regulations governing the Medicare, Medicaid and other federal healthcare programs are complex and subject to interpretation. Management believes that it is in compliance with all applicable laws and regulations in all material respects. However, compliance with such laws and regulations can be subject to future government review and interpretation as well as significant regulatory action including fines, penalties, and exclusions from the Medicare, Medicaid and other federal healthcare programs.

Debt Guarantees

At *December 31, 2018*, no agreement to guarantee the debt of other parties exists.

Note 17 – Equity Method Investment in Caris HealthCare, L.P.

As of *December 31, 2018*, we have a *75.1%* non-controlling ownership interest in Caris, a business that specializes in hospice care services in NHC owned health care centers and in other settings. The carrying value of our investment is *\$30,625,000* and *\$34,951,000* at *December 31, 2018* and *2017*, respectively. The carrying amounts are included in investments in limited liability companies in the consolidated balance sheets. The difference between the carrying value of our investment and our capital account balance in Caris is due to the additional limited partner ownership interest the Company acquired from current and former partners. Summarized financial information of Caris for the years ended *December 31, 2018, 2017, and 2016* is provided below (*in thousands*).

	December 31,		
	2018	2017	2016
Current assets	\$17,539	\$24,582	\$23,174
Noncurrent assets	10,266	10,490	10,673
Liabilities	8,657	10,113	9,118
Partners' capital	19,148	24,959	24,729
Revenue	56,410	53,586	53,211
Expenses	55,507	46,436	44,091
Net income	903	7,150	9,120

Consolidation Considerations

Due to our ownership percentage in Caris, we have considered whether Caris should be consolidated by NHC under the guidance provided in ASC Topic 810, *Consolidation*. We do *not* consolidate Caris because (1) Caris' equity at risk is sufficient to finance its activities without additional subordinated financial support, (2) the general partner of the Partnership has the power to direct the activities that most significantly impact the economic performance of Caris, and (3) the equity holders of Caris possess the characteristics of a controlling financial interest, including voting rights that are proportional to their economic interests. Supporting the assertions above is the following: (1) the ownership percentage of the general partner remains equally divided between NHC and another party, (2) the general partner manages and controls the Partnership with full and complete discretion, and (3) the limited partners have *no* right or power to take part in the control of the business of the Partnership, which is where our ownership percentage increases have occurred.

Note 18 – Relationship with National Health Corporation

National Health Corporation ("National"), which is wholly-owned by the National Health Corporation Leveraged Employee Stock Ownership Plan ("ESOP"), was formed in 1986 and is our administrative services affiliate and contractor. As discussed below, all of the personnel conducting our business, including our executive management team, are employees of National and *may* have ownership interests in National only through their participation as employees in the ESOP.

Management Contracts

We currently manage *five* skilled nursing facilities for National under a management contract. The management contract has been extended until *January 1, 2028*. See Note 3 for additional information regarding management services fees recognized from National.

Table of Contents

Financing Activities

During 1991, we borrowed \$10,000,000 from National. The term note payable required quarterly interest payments at the prime rate minus 0.85 percent. The entire principal was repaid during the *third* quarter of 2018.

In conjunction with our management contract, we have entered into a line of credit arrangement whereby we *may* have amounts due from National from time to time. The maximum loan commitment under the line of credit is \$2,000,000. At *December 31, 2018*, National did *not* have an outstanding balance on the line of credit.

The maximum line of credit commitment amount of \$2,000,000 is also the amount of a deferred gain that has been outstanding since NHC sold certain assets to National in 1988. The amount of the deferred gain is expected to remain deferred until the management contract with National expires, currently scheduled in *January 2028*. The deferred gain is included in deferred revenue in the consolidated balance sheets.

Payroll and Related Services

The personnel conducting our business, including our executive management team, are employees of National and *may* have ownership interests in National only through their participation in the ESOP. National provides payroll services to NHC, provides employee fringe benefits, and maintains certain liability insurance. We pay to National all the costs of personnel employed for our benefit, as well as an administrative fee equal to 1% of payroll costs. The administrative fee paid to National for the years ended *December 31, 2018, 2017, and 2016* was \$5,064,000, \$5,134,000, and \$4,701,000, respectively. At *December 31, 2018 and 2017*, the Company has recorded \$3,081,000 and \$2,521,000, respectively, in accounts receivable and \$80,000 and \$86,000, respectively, in accounts payable in the consolidated balance sheets as a result of the timing differences between interim payments for payroll and employee benefits services costs.

National's Ownership of Our Stock

At *December 31, 2018*, National owns 1,084,763 shares (or approximately 7.1%) of our outstanding common stock.

Consolidation Considerations

Because of the contractual and management relationships between NHC and National as described in this note above, we have considered whether National should be consolidated by NHC under the guidance provided in ASC Topic 810, *Consolidation*. We do *not* consolidate National because (1) NHC does *not* have any obligation or rights (current or future) to absorb losses or to receive benefits from National. The ESOP participants bear the current and future financial gain or burden of National, (2) National's equity at risk is sufficient to finance its activities without past or future subordinated support from NHC or other parties, and (3) the equity holders of National (that is collectively the ESOP, its trustees, and the ESOP participants) possess the characteristics of a controlling financial interest, including voting rights that are proportional to their economic interests. Supporting the assertions above is the following: (1) substantive independent trustees are appointed for the benefit of the ESOP participants when decisions must be made that *may* create the appearance of a conflict of interest between NHC and the ESOP, and (2) National was designed, formed and is operated for the purpose of creating variability and passing that variability along to the ESOP participants—that is, to provide retirement benefits and value to the employees of NHC and NHC's affiliates. The contractual and management relationships between NHC and National are with the skilled nursing facilities that are substantially less than 50% of the fair value of the total assets of National. NHC does *not* have a variable interest in National as a whole.

Note 19 – Variable Interest Entity

Accounting guidance requires that a variable interest entity (“VIE”), according to the provisions of ASC Topic 810, *Consolidation*, must be consolidated by the primary beneficiary. The primary beneficiary is the party that has both the power to direct activities of a VIE that most significantly impact the entity's economic performance and the obligation to absorb losses of the entity or the right to receive benefits from the entity that could potentially be significant to the VIE. We perform ongoing qualitative analysis to determine if we are the primary beneficiary of a VIE. At *December 31, 2018*, we are the primary beneficiary of *one* VIE and therefore consolidate that entity.

Springfield, Missouri Lease

In *December 2010*, we signed an operating agreement to lease Springfield Rehabilitation and Health Care Center, a *120-bed* skilled nursing facility located in Springfield, Missouri. The terms of the lease include a *ten-year* lease and include *five* additional, *five-year* lease options as well as a purchase option. The operating lease agreement was established on the same date *third* party owners purchased the real estate of the *120-bed* skilled nursing facility. The *third-party* owners purchased the real estate for *\$4,500,000*, which is the amount NHC loaned the owners to purchase the facility under the terms of the lease agreement and the mortgage note. The risks and rewards associated with the operations of the facility and any appreciation or depreciation in the value of the real estate of the facility is borne by NHC. A mortgage note receivable from the *third-party* owners of *\$11,047,000* and *\$8,408,000* at *December 31, 2018* and *2017*, respectively, is eliminated in our consolidated financial statements. Land and buildings and improvements of *\$11,047,000* and *\$8,408,000* at *December 31, 2018* and *2017*, respectively, have been recorded in our consolidated financial statements, as well as the operations of the facility because we are the primary beneficiary in the relationship.

Note 20 – Series B Junior Participating Preferred Stock

On *August 2, 2007*, the NHC Board of Directors approved the adoption of a stockholder rights plan and declared a dividend distribution of *one* right (a "Right") for each outstanding share of NHC common stock to stockholders of record at the close of business on *August 2, 2007*. Each Right entitles the registered holder to purchase from NHC a unit consisting of *one* one–ten thousandth of a share of Series B Junior Participating Preferred Stock, *\$0.01* par value at a purchase price of *\$250* per Unit, subject to adjustment. This stockholder rights plan expired *August 7, 2017* and *no* shares were issued during its existence.

Table of Contents**Note 21 – Selected Quarterly Financial Data***(unaudited, in thousands, except per share amounts)*

The following table sets forth selected quarterly financial data for the *two* most recent fiscal years.

2018	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Net operating revenues	\$242,961	\$242,142	\$246,326	\$248,920
Income from operations	15,883	12,165	10,834	17,194
Non–operating income	(3,065)	5,654	8,467	6,614
Unrealized (loss) gains on marketable equity securities	(15,517)	12,448	3,486	721
Net (loss) income attributable to NHC	(2,791)	22,461	21,142	18,152
Basic earnings per share	(0.18)	1.48	1.39	1.19
Diluted earnings per share	(0.18)	1.47	1.39	1.19

2017	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Net operating revenues	\$238,538	\$238,695	\$241,196	\$246,311
Income from operations	15,864	12,138	9,785	16,323
Non–operating income	4,768	5,189	6,090	4,392
Net income attributable to NHC	12,728	10,655	11,352	21,470
Basic earnings per share	.84	.70	.75	1.41
Diluted earnings per share	.84	.70	.75	1.41

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Based on their evaluation as of December 31, 2018, the Chief Executive Officer and Principal Accounting Officer of the Company have concluded that the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended) were effective to ensure that the information required to be disclosed by us in this Annual Report on Form 10-K was recorded, processed, summarized and reported within the time periods specified in the SEC's rules and instructions for Form 10-K.

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

We are responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934, as amended). We assessed the effectiveness of our internal control over financial reporting as of December 31, 2018. In making this assessment, our management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in Internal Control-Integrated Framework (2013 Framework). We have concluded that, as of December 31, 2018, our internal control over financial reporting is effective based on these criteria. Our independent registered public accounting firm, Ernst & Young, LLP, has issued an attestation report on the effectiveness of the Company's internal control over financial reporting included herein.

Table of Contents

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors of National HealthCare Corporation

Opinion on Internal Control over Financial Reporting

We have audited National HealthCare Corporation's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, National HealthCare Corporation (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of National HealthCare Corporation as of December 31, 2018 and 2017, and the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2018, and the related notes and financial statement schedule listed in the Index at Item 15(a) and our report dated February 20, 2019 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

Nashville, Tennessee

February 20, 2019

Table of Contents

Changes in Internal Control

There were no changes in our internal control over financial reporting during the quarter ended December 31, 2018 that have materially affected or are reasonably likely to materially affect our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information in our definitive 2019 proxy statement set forth under the captions *Directors of the Company* and *Executive Officers of the Company* is hereby incorporated by reference.

ITEM 11. EXECUTIVE COMPENSATION

The information in our definitive 2019 proxy statement set forth under the caption *Compensation Discussion & Analysis* is hereby incorporated by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information in our definitive 2019 proxy statement set forth under the captions *Section 16(A) Beneficial Ownership Reporting Compliance* is hereby incorporated by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

The information in our definitive 2019 proxy statement set forth under the caption *Certain Relationships and Related Transactions* is hereby incorporated by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information in our definitive 2019 proxy statement set forth under the caption *Report of the Audit Committee* is hereby incorporated by reference (which will be filed within 120 days of the end of the fiscal year to which this report relates).

Table of Contents

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULE

The following documents are filed as a part of this report:

(a)(1) Financial Statements:

The Financial Statements are included in Item 8 and are filed as part of this report.

(2) Financial Statement Schedule:

NATIONAL HEALTHCARE CORPORATION

SCHEDULE II – VALUATION AND QUALIFYING ACCOUNTS

FOR THE YEARS ENDED DECEMBER 31, 2018, 2017 AND 2016

(in thousands)

Column A	Column B	Column C	Column D	Column E	
Description	Balance— Beginning of Period	Additions Charged to Costs and Expenses	Charged to other Accounts	Deductions	Balance— End of Period
For the year ended December 31, 2016 Accrued risk reserves	\$ 98,508	\$ 63,596	\$ –	\$ 70,942	\$ 91,162

Edgar Filing: NUPATHE INC. - Form S-1/A

For the year ended December 31, 2017

Accrued risk reserves	\$ 91,162	\$ 71,229	\$ -	\$ 69,116	\$ 93,275
-----------------------	-----------	-----------	------	-----------	-----------

For the year ended December 31, 2018

Accrued risk reserves	\$ 93,275	\$ 75,052	\$ -	\$ 72,303	\$ 96,024
-----------------------	-----------	-----------	------	-----------	-----------

All other financial statement schedules are not required under the related instructions or are inapplicable and therefore have been omitted.

Table of Contents

(3) Exhibits:

EXHIBIT INDEX

Exhibit No.	Description	Page No. or Location
3.1	<u>Certificate of Incorporation of National HealthCare Corporation</u>	Incorporated by reference to Exhibit 3.1 to the Registrant's registration statement on Form S-4 (File No. 333-37185) dated October 3, 1997)
3.2	<u>Certificate of Amendment to the Certificate of Incorporation of National HealthCare Corporation</u>	Specifically incorporated by reference to Exhibit 3.5 attached to Form 10-Q filed on August 3, 2017
3.3	<u>Certificate of Designations of Series A Convertible Preferred Stock of National HealthCare Corporation</u>	Incorporated by reference to Exhibit 2.1 to the current report on Form 8-K filed on December 20, 2006
3.4	<u>Certificate of Designation Series B Junior Participating Preferred Stock</u>	Incorporated by reference to Exhibit

		3.1 to the Registrant's registration statement on Form 8-A, dated August 3, 2007
3.5	<u>Restated Bylaws as amended February 14, 2013</u>	Specifically incorporated by reference to Exhibit 3.5 to the quarterly report on Form 10-Q filed on May 8, 2013.
4.1	<u>Form of Common Stock</u>	Specifically incorporated by reference to Exhibit 4.1 attached to Form 10-Q filed on August 3, 2017
4.4	<u>Notice of Redemption of Series A Convertible Preferred Stock dated October 2, 2015</u>	Incorporated by reference to Exhibit 99.1 to the Registrant's current report on Form 8-K filed on October 2, 2015
10.1	<u>Master Agreement of Lease dated as of October 17, 1991 by and among National Health Investors, Inc. and National HealthCorp, L.P.</u>	Incorporated by reference to Exhibit 10.1 to the Registrant's registration statement on Form S-4

		filed October 3, 1997
10.2	<u>Form of Service Agreement by and between National Health Corporation and National HealthCare Corporation</u>	Incorporated by reference to Exhibit 10.5.1 to the Registrant's registration statement on Form S-4 filed October 3, 1997
10.5	<u>Amendment No. 1 to Master Agreement to Lease between National Health Investors, Inc. and National HealthCorp L.P.</u>	Incorporated by reference to Exhibit 10.19 from 2005 Form 10-K filed March 16, 2006
10.6	<u>Amendment No. 2 to Master Agreement to Lease between National Health Investors, Inc. and National HealthCare L.P.</u>	Incorporated by reference to Exhibit 10.20 from 2005 Form 10-K filed March 16, 2006
10.7	<u>Amendment No. 3 to Master Agreement to Lease between National Health Investors, Inc. and National HealthCare L.P.</u>	Incorporated by reference to Exhibit 10.21 from 2005 Form 10-K filed March 16, 2006
10.8	<u>Amendment No. 4 to Master Agreement to Lease between National Health Investors, Inc. and National HealthCare L.P.</u>	Incorporated by reference to Exhibit 10.22 from 2005 Form 10-K filed March 16, 2006

10.9	<u>Amendment No. 5 to Master Agreement to Lease between National Health Investors, Inc. and National HealthCare Corporation</u>	Incorporated by reference to Exhibit 10.23 from 2005 Form 10-K filed March 16, 2006
*10.10	<u>National HealthCare Corporation's 2010 Omnibus Equity Incentive Plan</u>	Incorporated by reference to Exhibit A to 2010 Proxy Statement filed April 1, 2010.
*10.11	<u>First Amendment dated February 14, 2011 to the National HealthCare Corporation 2010 Omnibus Equity Incentive Plan</u>	Incorporated by reference to Exhibit 10.16 from 2015 Form 10-K filed February 19, 2016.
*10.12	<u>Amendment dated March 10, 2015 to National HealthCare Corporation's 2010 Omnibus Equity Incentive Plan</u>	Incorporated by reference to Appendix A to 2015 Proxy Statement filed April 1, 2015.
*10.13	<u>2017 NHC Executive Officer Performance Based Compensation Plan</u>	Incorporated by reference to Appendix B to 2017 Proxy Statement filed April 4, 2017.
10.14	<u>Amendment to Purchase and Sale Agreement with Modifications to Master Agreement to Lease between National Health Investors, Inc. and National HealthCare Corporation</u>	Incorporated by reference to Exhibit 10.1 of National

		HealthCare Corporation's Form 10-Q filed on November 5, 2013
10.15	<u>Agreement to Lease between NHI-REIT of Northeast, LLC, Landlord and NHC/OP, L.P. and National HealthCare Corporation, Co-Tenants</u>	Incorporated by reference to Exhibit 10.4 of National HealthCare Corporation's Form 10-Q filed on November 5, 2013

Table of Contents

10.16	<u>Amended and Restated Amendment No. 6 to Master Agreement to Lease between National Health Investors, Inc. and National HealthCare Corporation</u>	Incorporated by reference to Exhibit 10.2 of National HealthCare Corporation's Form 10-Q filed on November 5, 2013
10.17	<u>Amendment No. 7 to Master Agreement to Lease between National Health Investors, Inc. and National HealthCare Corporation</u>	Incorporated by reference to Exhibit 10.3 of National HealthCare Corporation's Form 10-Q filed on November 5, 2013
10.18	<u>Credit Agreement dated as of October 7, 2015 among National HealthCare Corporation and Bank of America</u>	Incorporated by reference to Exhibit 10.1 of National HealthCare Corporation's quarterly report on Form 10-Q filed on November 5, 2015
10.19	<u>Pledge and Security Agreement dated as of October 7, 2015 between National HealthCare Corporation and Bank of America</u>	Incorporated by reference to Exhibit 10.2 of National HealthCare Corporation's quarterly report on Form 10-Q filed on November 5, 2015
10.20	<u>Note dated October 7, 2015 between National HealthCare Corporation and Bank of America</u>	Incorporated by reference to Exhibit 10.3 of National HealthCare Corporation's quarterly report on Form 10-Q filed on November 5, 2015

10.21	<u>Contribution Agreement dated December 29, 2011 between National HealthCare Corporation and Caris HealthCare, L.P. pursuant to which NHC acquired a 7.5% interest in Caris from McRae in exchange for \$7,500,000</u>	Incorporated by reference to Exhibit 10.26 to National HealthCare Corporation's annual report on Form 10-K filed on February 21, 2014
10.22	<u>Assignment of membership interest in Solaris Hospice, LLC dated December 29, 2011 and effective on January 1, 2012, whereby NHC assigned its membership interest to Caris in exchange for an additional 2.7% limited partnership interest in Caris.</u>	Incorporated by reference to Exhibit 10.27 to National HealthCare Corporation's annual report on Form 10-K filed on February 21, 2014
10.23	<u>Purchase and Sale Agreement and Extension of Master Lease dated December 26, 2012 between National Health Investors, Inc. and National HealthCare Corporation</u>	Incorporated by reference to Exhibit 10.29 to National HealthCare Corporation's annual report on Form 10-K filed on February 21, 2014
14	Code of Ethics of National HealthCare Corporation	Available at NHC's website www.nhccare.com or in print upon request to: National HealthCare Corp. Attn: Investor Relations P. O. Box 1398 Murfreesboro, TN 37133-1398

Telephone
(615) 890-2020

21	<u>Subsidiaries of Registrant</u>	Filed Herewith
23	<u>Consent of Independent Registered Public Accounting Firm – Ernst & Young LLP</u>	Filed Herewith
31.1	<u>Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer</u>	Filed Herewith
31.2	<u>Rule 13a-14(a)/15d-14(a) Certification of Principal Accounting Officer</u>	Filed Herewith
32	<u>Certification pursuant to 18 U.S.C. Section 1350 by Chief Executive Officer and Principal Accounting Officer</u>	Filed Herewith
101.INS	XBRL Instance Document	
101.SCH	XBRL Taxonomy Extension Schema Document	
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document	
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document	
101.LAB	XBRL Taxonomy Extension Label Linkbase Document	
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document	

*Indicates
management
contract or
compensatory
plan or
arrangement.

Table of Contents

SIGNATURES

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

NATIONAL HEALTHCARE CORPORATION

Date: February 20, 2019 BY: /s/ Stephen F. Flatt
Stephen F. Flatt
Chief Executive Officer and Director

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Date: February 20, 2019 /s/ Stephen F. Flatt
Stephen F. Flatt
Chief Executive Officer and Director
(Principal Executive Officer)

Date: February 20, 2019 /s/ Brian F. Kidd
Brian F. Kidd
Senior Vice President and Controller
(Principal Financial Officer)
(Principal Accounting Officer)

Date: February 20, 2019 /s/ Robert G. Adams
Robert G. Adams
Chairman of the Board

Date: February 20, 2019 /s/ J. Paul Abernathy
J. Paul Abernathy
Director

Date: February 20, 2019 /s/ W. Andrew Adams
W. Andrew Adams
Director

Date: February 20, 2019 /s/ Ernest G. Burgess
Ernest G. Burgess
Director

Edgar Filing: NUPATHE INC. - Form S-1/A

Date: February 20, 2019 /s/ Emil E. Hassan

Emil E. Hassan
Director

Date: February 20, 2019 _____

Richard F. LaRoche, Jr.
Director

Date: February 20, 2019 /s/ Lawrence C. Tucker

Lawrence C. Tucker
Director