NORTHFIELD LABORATORIES INC /DE/
Form 424B5
March 16, 2009

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Prospectus Supplement Filed pursuant to Rule 424(b)(5)
(to Prospectus dated September 1, 2006) Registration No. 333-137072

5,404.652 Shares of Convertible Preferred Stock
Warrants to Purchase 5,404,652 Shares of Common Stock

We are offering up to 5,404.652 shares of convertible preferred stock together with warrants to purchase 5,404,652 shares of common stock. The convertible preferred stock is convertible at any time at the option of the holder into shares of our common stock at a conversion price of $0.265 per share. The warrants are exercisable at a price of $0.53 per share at any time after the six-month anniversary of the date of issuance and before the fourth anniversary of the initial exercise date.

Our common stock is quoted on the Nasdaq Global Market under the symbol NFLD. On March 12, 2009, the last reported sales price of our common stock on the Nasdaq Global Market was $0.54 per share.

Investing in our securities involves a high degree of risk. Before buying any securities, you should carefully read the discussion of material risks of investing in our securities in Risk Factors beginning on page S-5.

We have retained Rodman & Renshaw, LLC to act as our exclusive placement agent in connection with this offering. We have agreed to pay the placement agent the placement agent fees set forth in the table below. The placement agent is not required to arrange for the sale of any specific number or dollar amount of securities but will use best efforts to arrange for the sale of all of the securities offered hereby.

	Price to Investors	Placement Agency Fees(1)	Proceeds to Northfield Before Expenses and After Placement Agency Fees
Per Share of Convertible Preferred Stock	$ 265	$ 15.90	$ 249.10
Total	$1,432,232	$85,934	$ 1,346,298

(1) In addition to payment of a cash placement fee, we have agreed to issue to the placement agent a warrant to purchase a number of shares of common stock equal 6% of the total number of shares of common stock issuable upon the conversion or exercise of the shares of convertible preferred stock

and warrants included in this offering. The placement agent s warrant is exercisable at a price of $0.6625 per share, has a term of 4.5 years and may not be exercised or transferred until six months after the date of the completion of this offering. We have also agreed to reimburse the placement agent for its reasonable out-of-pocket expenses, including the reasonable fees and expenses of the placement agent s legal counsel, incurred in connection with this offering, such expenses not to exceed an aggregate of 0.8% of the gross proceeds to us from this offering, but in any event not more than $30,000.

We expect the total offering expenses, excluding placement agency fees and expenses, to be approximately $50,000 for all sales pursuant to this prospectus supplement. The above summary of offering proceeds to us does not give effect to any exercise of the warrants being issued in this offering.

Delivery of the shares and warrants will be made on or about March 16, 2009.

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

Rodman & Renshaw, LLC
Prospectus Supplement dated March 13, 2009

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ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is the prospectus supplement, which describes the specific terms of the shares and warrants we are offering and also adds to, and updates information contained in, the accompanying prospectus and the documents incorporated by reference into the accompanying prospectus. The second part, the accompanying prospectus, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying prospectus or any document incorporated by reference therein, on the other hand, you should rely on the information in this prospectus supplement. If, however, any statement in one of these documents is inconsistent with a statement in another document having a later date such as a document incorporated by reference in the accompanying prospectus the statement in the document having the later date modifies or supersedes the earlier statement.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference in the accompanying prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to investors in this offering. Such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

You should rely only on the information contained and incorporated by reference in this prospectus supplement and the accompanying prospectus. We have not, and the placement agent has not, authorized anyone to provide information different from that contained or incorporated by reference in this prospectus supplement or the accompanying prospectus. You should not assume that the information in this prospectus supplement and accompanying prospectus is accurate as of any date after their respective dates. These documents do not constitute an offer to sell or a solicitation of an offer to buy these securities in any circumstances under which the offer or solicitation is unlawful.

Unless the context requires otherwise, the words Northfield, we, the Company, us and our in this prospect supplement and accompanying prospectus refer to Northfield Laboratories Inc. PolyHeme® is a registered trademark of Northfield Laboratories Inc.

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FORWARD-LOOKING INFORMATION

This prospectus supplement, the accompanying prospectus and the documents we incorporate by reference contain forward-looking statements concerning, among other things, our prospects, clinical and regulatory developments affecting our potential product and our business strategies. These forward-looking statements are identified by the use of such terms as intends, expects, plans, estimates, anticipates, forecasts, should, be similar words.

These forward-looking statements involve risks and uncertainties. Actual results may differ materially from those predicted by the forward-looking statements because of various factors and possible events, including those discussed under Risk Factors. Because these forward-looking statements involve risks and uncertainties, actual results may differ significantly from those predicted in these forward-looking statements. You should not place undue weight on these statements. These statements speak only as of the date of this prospectus or, in the case of any document incorporated by reference, the date of that document.

All subsequent written and oral forward-looking statements attributable to Northfield or any person acting on our behalf are qualified by the cautionary statements in this section. We do not undertake any obligation to update or publicly release any revisions to forward-looking statements to reflect events, circumstances or changes in expectations after the time such statement is made.

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OUR BUSINESS

Northfield Laboratories Inc. is developing PolyHeme®, an investigative human hemoglobin-based red cell substitute for the treatment of life-threatening red blood cell loss when an oxygen-carrying fluid is required and red blood cells are not available.

On October 29, 2008, Northfield announced that we had submitted a Biologics License Application, or BLA, for PolyHeme to the U.S. Food and Drug Administration, or FDA, with a request that the agency grant Priority Review of our application. Our BLA was based on Northfield s comprehensive development program, including data from our Multicenter Phase III randomized, controlled, prospective trauma trial involving 720 patients. Findings from this study were presented at the American College of Surgeons in 2007 and were published in the January 2009 edition of the *Journal of the American College of Surgeons*.

On December 30, 2008, we announced that FDA had accepted for filing our BLA for PolyHeme. FDA granted Priority Review of the submission with a Prescription Drug User Fee Act, or PDUFA, review goal date of April 30, 2009.

Since the submission of our BLA in October 2008, there has been considerable activity. We have received multiple requests from FDA for data clarification and supplementation. To address these requests, we have provided several amendments to our original BLA. The process of FDA site inspection and audit has begun at a number of the 32 institutions that participated in our Phase III trial. FDA has also conducted a Pre-License Inspection of our manufacturing facility.

In addition, Northfield has begun preparations for an anticipated discussion regarding PolyHeme at a meeting of FDA s Blood Products Advisory Committee, or BPAC, an independent advisory committee that is customarily convened by FDA to review and discuss BLAs relating to new blood products. Whether and when our BLA for PolyHeme may be discussed by BPAC is uncertain, however, and at present we do not believe our BLA will be discussed by BPAC prior to FDA s April 30, 2009 review goal date for our BLA.

We have recently implemented a number of measures to reduce our cash burn in order to preserve our available cash resources for ongoing operations. We have eliminated 13 positions at our manufacturing facility in Mount Prospect, Illinois, and have reduced hours for our remaining staff. In addition, we are closing our corporate offices in Evanston, Illinois and relocating staff to our owned Mount Prospect facility to further reduce operating costs. We have also delivered notices to our employees and certain governmental authorities with respect to the possible termination of the employment of the remaining employees at our corporate offices and plant facilities on or after 60 days following the notice date, or approximately May 5, 2009. Following the recent completion of FDA s Pre-License Inspection of our manufacturing facility, we believe these actions can be taken while still maintaining our capability to address manufacturing, regulatory and licensing issues.

Our principal executive offices are located at 1560 Sherman Avenue, Suite 1000, Evanston, Illinois 60201-4800, and our telephone number is (847) 864-3500. We maintain an Internet website at *www.northfieldlabs.com*. We make available free of charge on our website our Form 10-Ks, Form 10-Qs, Form 8-Ks and other documents that we file with or furnish to the Securities and Exchange Commission, or SEC, as soon as reasonably practicable after filing with the SEC. The information contained on our website, or on other websites linked to our website, is not a part of this prospectus supplement or the accompanying prospectus.

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THE OFFERING

Securities Offered	Up to 5,404.652 shares of convertible preferred stock, plus warrants to purchase an additional 5,404,652 shares of common stock.
Shares of Common Stock to be Outstanding After this Offering	27,036,780 shares of common stock, or 37,846,084 shares of common stock if the convertible preferred stock and warrants offered hereby are converted and exercised in full.
Use of Proceeds	For general corporate purposes, including general and administrative expenses and expenses in connection with the regulatory review of our PolyHeme product. See Use of Proceeds.
Risk Factors	You should carefully read the Risk Factors section of this prospectus supplement before investing in our securities.
Nasdaq Global Market Symbol	NFLD

The number of shares of common stock to be outstanding after this offering is based on 27,036,780 shares outstanding as of February 1, 2009. The number of shares of common stock to be outstanding after this offering excludes an aggregate of 2,721,257 shares of common stock reserved as of February 1, 2009 for future issuance upon the exercise of outstanding stock options granted under equity compensation plans for our directors, officers and employees and outstanding warrants.

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RISK FACTORS

Investing in our securities involves a high degree of risk. In addition to the other information included or incorporated by reference in this prospectus supplement and the accompanying prospectus, you should carefully consider the risks described below before purchasing our securities. If any of the following risks actually occur, our business, financial condition and results of operations could materially suffer. As a result, the trading price of our common stock could decline, and you could lose all or part of your investment.

Risks Relating to Our Business

We are a development stage company without revenues or profits.

Northfield was founded in 1985 and is a development stage company. Since 1985, we have been engaged primarily in the development and clinical testing of PolyHeme, our investigative human hemoglobin-based red cell substitute for the treatment of life-threatening red blood cell loss when an oxygen-carrying fluid is required and red blood cells are not available. No revenues have been generated to date from commercial sales of PolyHeme. Our revenues to date have consisted solely of license fees. We cannot ensure that our clinical testing will be successful, that regulatory approval of PolyHeme will be obtained, that we will be able to manufacture PolyHeme at an acceptable cost and in appropriate quantities or that we will be able to successfully market and sell PolyHeme. We also cannot ensure that we will not encounter unexpected difficulties which will have a material adverse effect on us, our operations or our properties.

We have a history of losses and our future profitability is uncertain.

From our inception through November 30, 2008 we have incurred net operating losses totaling $231,732,000. We will require substantial additional expenditures to pursue regulatory approval for PolyHeme, to establish expanded commercial scale manufacturing processes and facilities, and to establish marketing, sales and administrative capabilities. These expenditures are expected to result in substantial losses for at least the next few years and are expected to substantially exceed our currently available capital resources, including the net proceeds of this offering. The expense and the time required to realize any product revenues or profitability are highly uncertain. We cannot ensure that we will be able to achieve product revenues or profitability on a sustained basis or at all.

Our financial resources are limited and we will need to raise additional capital in the future to continue our business.

As of November 30, 2008, we had cash and cash equivalents and marketable securities of approximately $10.1 million. From the beginning of our current fiscal year on June 1, 2008 through February 28, 2009, we estimate that we have utilized our cash resources at an average rate of approximately $1.7 million per month. Based on recently announced reductions in the total number of our employees, the placement of certain employees on part-time status and our other cost-reduction initiatives, we believe we will be able to reduce the utilization of our cash resources to an average of approximately $1.4 million per month, excluding severance and other costs relating to our staff reductions.

Based on our current estimates, we anticipate that our existing financial resources, including the expected net proceeds to us from this offering, will be adequate to permit us to continue to conduct our business through at least April 30, 2009. We will need to raise substantial additional capital to continue our business after this period. If we are unable to raise substantial additional capital, we will not be able to continue our business and we anticipate that we will terminate the employment of most or all of our remaining employees and use our remaining cash resources to pay severance and other employee-related costs, make payments to extend our directors and officers liability insurance coverage and satisfy outstanding obligations to our vendors, consultants and professional advisors. We do not expect that there

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will be material cash available for distribution to our stockholders if we are unable to continue our business. It is highly likely in this event that our shares, including any shares purchased in this offering, will lose all or substantially all of their market value.

We cannot ensure that additional funding will be available or, if it is available, that it can be obtained on terms and conditions we will deem acceptable. In view of Northfield s financial condition and business prospects, combined with current adverse conditions in the financial and securities markets, debt or equity financing on acceptable terms may not be available to Northfield for the foreseeable future. If funding becomes available in the future, any additional funding derived from the sale of equity securities is likely to result in significant dilution to our existing stockholders, including investors in this offering. The opinion of our independent accountants with respect to our audited financial statements includes an explanatory paragraph regarding the continuation of our company as a going concern. We are also subject to a putative class action lawsuit alleging violations of the federal securities laws. These matters involve risks and uncertainties that may prevent us from raising additional capital or may cause the terms upon which we raise additional capital, if additional capital is available, to be less favorable to us than would otherwise be the case.

We are developing a single product that is subject to a high level of technological risk.

To succeed as a company, we must develop PolyHeme commercially and sell adequate quantities of PolyHeme at a high enough price to generate a profit. We may not accomplish either of these objectives. Our operations have to date consisted primarily of the development and clinical testing of PolyHeme. We do not expect to realize product revenues unless we successfully develop and achieve commercial introduction of PolyHeme. We expect that such revenues, if any, will be derived solely from sales of PolyHeme directly or through licensees. We also expect the use of PolyHeme initially to be limited to the acute blood loss segment of the transfusion market. The biomedical field has undergone rapid and significant technological changes. Technological developments may result in PolyHeme becoming obsolete or non-competitive before we are able to recover any portion of the research and development and other expenses we have incurred to develop and clinically test PolyHeme. Any such occurrence would have a material adverse effect on us and our operations.

We are required to receive FDA approval before we may sell PolyHeme commercially, data from our clinical trials to date may not be adequate to obtain FDA approval, and we may be required to conduct additional clinical trials in the future.

We submitted our Biologics License Application, or BLA, for PolyHeme to FDA on October 29, 2008. On December 30, 2008, we announced that FDA had accepted for filing our BLA and had granted Priority Review of our application with a Prescription Drug Users Fee Act, or PDUFA, review goal date of April 30, 2009.

From January 1 through October 31, 2008, data published by FDA indicate that approximately 20% of the PDUFA review date goals were missed. Furthermore, the impact of the implementation of the FDA Amendment Act, or FDAAA, and the planned implementation of the FDA s 21st Century Review Process has increased the potential for missed PDUFA review dates, particularly in the case of Priority Reviews, because of the difficulty of successfully completing all the required activities, including a discussion of the applicable product at a FDA advisory committee meeting, within the target review period. FDAAA authority to require post-marketing studies and Risk Evaluation and Mitigation Strategies, or REMS, only came into effect in March 2008, but the experience suggests that REMS may prolong review times. It is therefore possible that FDA will not be able to complete its review of our BLA within the review period prescribed under PDUFA. For these reasons, we are not able to predict whether FDA will comply with the April 30, 2009 review goal date for our BLA or, if FDA does not comply with this review goal date, when the agency will complete its review of our BLA.

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Under FDA s review process, the agency generally convenes a meeting of its Blood Products Advisory Committee, or BPAC, to discuss BLAs relating to new blood products. BPAC is an independent advisory committee comprised of researchers, physicians and other experts in the field of blood products as well as community representatives. The next scheduled meeting of BPAC is April 1, 2009. The agenda for that meeting has not yet been published. According to the 2008 Guidance for Industry, it is the intention of FDA to notify sponsors approximately 55 business days before an open advisory committee meeting that will consider an issue directly relevant to the sponsor. We therefore do not believe our BLA will be discussed by BPAC at its April 2009 meeting. It is not certain whether and when our BLA for PolyHeme will be discussed by BPAC or what effect, if any, the timing of the discussion of our BLA by BPAC may have on the ability of FDA to achieve its review goal date for our BLA.

The publicly available data regarding recent applications to FDA for approval of new molecular entities, or NMEs, indicates that in the five years from 2003 to 2007, approximately 68% of Priority Review applications were approved by FDA in the first review cycle. For those applications that the agency does not approve in the first review cycle, FDA can request that the sponsor provide additional information, conduct additional preclinical or clinical tests or take other actions as a condition to license approval. It is therefore possible that FDA may refuse to approve our BLA or may require us to take additional actions as a condition to approval. If our BLA is not approved in the first review cycle, we cannot predict what additional actions FDA might require us to take to obtain approval of our BLA or the time or costs that may be required for us to complete such actions. Because of our limited capital resources, we may not have sufficient funds available to continue our operations for a period that would enable us to satisfy potential additional requirements imposed by FDA as a condition to granting approval of our BLA.

The primary efficacy endpoint of our most recent Phase III trial, in which patient enrollment was completed in July 2006, was a dual superiority-noninferiority assessment of mortality at 30 days after injury. The results did not achieve the primary efficacy endpoint in the primary patient population as specified in the protocol. Further, although there was no statistically significant difference between the PolyHeme and control group for any of the primary safety endpoints for our trial, statistically significant differences favoring the standard of care were observed with respect to certain safety parameters, including the incidence of myocardial infarction as reported by investigators. Based on these results, there can be no assurance that the data will be sufficient to demonstrate the safety and effectiveness of PolyHeme for purposes of obtaining FDA approval.

Preclinical testing included extensive in-vitro and in-vivo studies of PolyHeme to assess product pharmacology and toxicology. These studies varied greatly with regard to animal species, protocol and product dosing, concomitant study drugs, and the timing and nature of the observations and measurements. Some of these studies have shown species dependent abnormalities in certain laboratory findings, including increases in aspartate aminotransferase, bilirubin, blood urea nitrogen, chromaturia, glucose, and troponin, and certain abnormal microscopic findings, including renal tubular proteinosis, Kupffer cell hypertrophy, karyomegaly, histiocytosis, cellular degeneration, and inflammation in organs such as the kidney, liver, or heart. These abnormalities were largely reversible and there was no evidence of organ failure. The clinical relevance of these findings is unclear when extrapolated to the human setting. There can be no assurance that these preclinical data will be considered sufficient for FDA approval.

Our BLA also addressed chemistry, manufacturing and controls, or CMC, issues. Our pilot manufacturing facility was first opened in 1990 with a design capacity to produce up to 10,000 units of PolyHeme per year. At the time it was Northfield s plan to use the pilot facility for research and development purposes and the manufacture of clinical supplies under the appropriate current Good Manufacturing Practices, or cGMP, with future commercial scale manufacturing being performed in a new facility. Our current plan is to seek FDA approval for use of the pilot plant as our initial commercial manufacturing site, to be followed by expansion at a later date. The cGMP requirements for commercial manufacturing have evolved considerably over the past two decades and we have made multiple improvements and updates to our pilot facility, all of which required subsequent validation, in order to confirm cGMP compliance. These upgrades have consumed and continue to consume considerable time, effort and expense. We anticipate that the final capacity of this pilot facility will be approximately 5,000 to 7,500 units per year. There can be no assurance that the pilot facility will be considered to be in compliance with cGMP requirements.

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FDA review includes a balance of risks and benefits, but the current regulatory climate is shaped by heightened pressure on FDA from the public and Congress following high profile safety concerns about certain pharmaceutical products. FDA has become increasingly risk-averse, requiring even more substantial benefits to outweigh potential safety concerns. We believe that PolyHeme could offer substantial benefits to patients in the absence of red blood cells for transfusion. If approved, PolyHeme would be the first hemoglobin-based oxygen carrier for human use to receive FDA approval. We recognize, however, that our Phase III study did not fully reflect the patient population for whom PolyHeme may be most appropriate and that the data are therefore susceptible to varying interpretations. As a result, there is no guarantee that an agency focused more heavily on product safety risks will be willing to extrapolate an acceptable risk-benefit profile from the urban setting of our pivotal clinical trial, particularly in light of potential safety signals.

FDA may accordingly refuse to approve PolyHeme for commercial sale, and may require us to conduct additional clinical trials of PolyHeme in order to obtain approval. Alternatively, FDA may be willing to approve PolyHeme on the basis of available evidence, but may significantly limit the indication for which it may be marketed, impose additional restrictions through a Risk Evaluation and Mitigation Strategy, or REMS, or require substantial postmarketing commitments to evaluate the use of PolyHeme in additional settings where it may be used or in additional patient populations, such as children . Any of these alternatives could impede access, raise costs and reduce the ability of Northfield to recoup investments. Additionally, in order to market PolyHeme for any additional uses in the United States, we will be required to obtain approval of a separate BLA, which will require the design and conduct of additional clinical trials, and will involve all of the uncertainties described above.

Our business, financial condition and results of operations are critically dependent on receiving FDA approval of PolyHeme. A delay in achieving, or failure to achieve, FDA approval for commercial sales of PolyHeme would have a material adverse effect on us and could result in the cessation of our business.

There may be limitations in the supply of the starting material for PolyHeme.

We currently purchase donated red blood cells from the American Red Cross and Blood Centers of America for use as the starting material for PolyHeme. We have an agreement with hemerica, Inc., a subsidiary of Blood Centers of America, under which hemerica would supply us with up to 160,000 units per year of packed red cells, the source material for PolyHeme. We have not purchased any blood supplies under this agreement to date. We have plans to enter into long-term supply arrangements with other blood collectors. We cannot ensure that we will be able to enter into satisfactory long-term arrangements with blood bank operators, that the price we may be required to pay for starting material will permit us to price PolyHeme competitively or that we will be able to obtain an adequate supply of starting material. Additional demand for blood may arise from competing human hemoglobin-based oxygen carrier products, thereby limiting our available supply of starting material.

The market may not accept our product.

Even if PolyHeme is approved for commercial sale by FDA, the degree of market acceptance of PolyHeme by physicians, healthcare professionals and third party payors will depend on a number of factors, including:

- relative convenience and ease of administration;
- the prevalence and severity of any adverse side effects;
- effectiveness of our sales and marketing strategy; and
- the price of PolyHeme compared with competing therapies.

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In addition, even if PolyHeme does achieve market acceptance, we may not be able to maintain that market acceptance over time if new products are introduced that are more favorably received than PolyHeme or render PolyHeme obsolete.

We have relied on third parties to perform data collection and analysis with respect to our clinical trial and to assist in the preparation and submission of our BLA for PolyHeme, which may result in costs and delays that prevent us from successfully commercializing our product.

We do not have the personnel resources to conduct all of the activities relating to the collection and analysis of data from our clinical trial and the preparation, submission and FDA review of our BLA for PolyHeme. We rely and will continue to rely on clinical investigators, third-party clinical research organizations and consultants to perform many of these functions.

FDA review of our BLA may be delayed, suspended or terminated if:

these third parties do not successfully carry out their contractual duties or regulatory obligations or meet expected deadlines;

these third parties need to be replaced; or

the work performed by these third parties does not satisfy applicable regulatory requirements or is not usable for other reasons.

Failure to perform by these third parties may increase our development costs, delay our ability to obtain regulatory approval and prevent the commercialization of our product.

Our activities are and will continue to be subject to extensive government regulation.

Our research, development, testing, manufacturing, marketing, and distribution of PolyHeme (as well as that of our collaborators) are, and will continue to be, subject to extensive regulation, monitoring, and approval by FDA and other government agencies, potentially in ways that we cannot currently predict. The regulatory approval process to establish the safety and effectiveness of PolyHeme and the safety and reliability of our manufacturing process has already consumed considerable time and resources.

We have taken advantage of Special Protocol Assessment, or SPA. Our SPA reflects an agreement with FDA on our trial design, the trial endpoints and the broad concepts for clinical indications those endpoints would support in an application for product approval by FDA. The SPA agreement, however, is not a guarantee of product approval by FDA or approval of any permissible claims about the product. In particular, it is not binding on the FDA if previously unrecognized public health concerns later come to light, other new scientific concerns regarding product safety or effectiveness arise, the sponsor fails to comply with the protocol agreed upon, or FDA s reliance on data, assumptions or information are determined to be wrong. Even after an SPA agreement is finalized, the SPA agreement may be changed by the sponsor company or the FDA on written agreement of both parties, and the FDA retains significant latitude and discretion in interpreting the terms of the SPA agreement and the data and results from any study that is the subject of the SPA agreement.

In addition, the data obtained from clinical trials are susceptible to varying interpretations, which could delay, limit or prevent FDA regulatory approval. Even if FDA accepts that our analysis of the Phase III data is sufficient to demonstrate effectiveness, our data may not demonstrate safety. We cannot ensure that, even after extensive clinical trials, regulatory approval will ever be obtained for PolyHeme. If PolyHeme is approved, it would be the first hemoglobin-based oxygen carrier for human use to receive FDA approval.

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Before we can market PolyHeme for any use in the United States, and for each subsequent indication, we must submit a BLA. Once we have prepared an application that we believe satisfies the statutory and regulatory standards for approval, there are many junctures at which the application may be delayed or fail. FDA may refuse to file the application, may refuse to designate the application for priority review, or may not be satisfied that PolyHeme is safe, pure, and potent, as a result of inadequate support from clinical trials, or concerns about our manufacturing facilities. The timing of each of these decisions is uncertain, and even after extensive clinical trials, there is no assurance that regulatory approval will ever be obtained for PolyHeme, particularly in light of FDA s current conservative approach to risk.

Moreover, if regulatory approval of PolyHeme is granted, it may be heavily constrained by FDA s focus on drug safety, and the authorities granted FDA by the Food and Drug Administration Amendments Act. Approval may be authorized only for a narrow indication, which will limit the ability to market PolyHeme, and FDA may also require post-approval studies or REMS in order to protect patients, further limiting access and requiring substantial investments of company time and resources. If these studies, clinical experience and required adverse event reporting, additional trials to support new indications, or even meta-analyses made possible through FDAAA s clinical trial disclosure requirements, demonstrate new risks, FDA may further restrict the approval of PolyHeme, or withdraw approval altogether. Additional laws and regulations may also be enacted which could prevent or delay regulatory approval of PolyHeme, and/or negatively impact post-approval marketing, including laws or regulations relating to the price or cost-effectiveness of medical products. Any of these scenarios are likely to have a material adverse effect on our financial condition.

Further, the manufacturing, testing, distribution, labeling, packaging, storage, advertising, promotion, reporting and record-keeping related to PolyHeme will also be subject to extensive ongoing regulatory requirements following approval. Among other things, we will be required to comply with current good manufacturing practices, adverse event reporting requirements, and FDA s general prohibitions against promoting products for unapproved or off-label uses. We are also subject to inspection and market surveillance by FDA for compliance with these and other requirements. Any enforcement action resulting from failure, even by inadvertence, to comply with these requirements, or those imposed in the future, could negatively affect the manufacture and marketing of PolyHeme.

We currently manufacture PolyHeme at a single location and, if we were unable to utilize this facility, our ability to manufacture PolyHeme will be significantly affected, and we will be delayed or prevented from commercializing PolyHeme.

We currently manufacture PolyHeme at a single location and we have no alternative manufacturing capacity in place at this time. Although we have made substantial ongoing investments in the maintenance of our manufacturing facility, there can be no assurance that we will not experience disruptions in our use of the facility due to age or condition of our facility. In addition, damage to this manufacturing facility due to fire, contamination, natural disaster, power loss, unauthorized entry or other events could force us to cease the manufacturing of PolyHeme. Any lack of supply could, in turn, delay any potential commercial sales. In addition, if the facility or the equipment in the facility is significantly damaged, destroyed or becomes inoperable for any reason, we may not be able to replace our manufacturing capacity for an extended period of time, and our business, financial condition and results of operations will be materially and adversely affected. We intend to seek FDA approval of this facility for the commercial production of PolyHeme if and when marketing approval of PolyHeme is obtained. This facility will be subject to FDA inspections and extensive regulation, including compliance with current good manufacturing practices and FDA approval. Failure to comply may result in enforcement action, which may significantly delay or suspend manufacturing operations. In order to obtain additional financing for our operations, we may in the future enter into a loan, sale-leaseback or other transaction that may require us to grant a lender or lessor a security interest in the land and building in which we operate our manufacturing facility. If an event of default occurs in connection with the loan or lease, the lender or lessor will be entitled to enforce its security interest, require us to cease operations at our manufacturing facility and sell the facility in order to satisfy our obligations under the loan. In this event, we will not be able to continue to manufacture PolyHeme at our current manufacturing facility and our business and financial condition will be materially and adversely affected.

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Failure to increase manufacturing capacity may impair PolyHeme s market acceptance and prevent us from achieving profitability.

Our pilot manufacturing facility was first opened in 1990 with a design capacity to produce up to 10,000 units of PolyHeme per year. At the time it was Northfield s plan to use the pilot facility for research and development purposes and the manufacture of clinical supplies under the appropriate current Good Manufacturing Practices, or cGMP, with future commercial scale manufacturing being performed in a new facility. Our current plan is to seek FDA approval for use of the pilot plant as our initial commercial manufacturing site, to be followed by expansion at a later date. The cGMP requirements for commercial manufacturing have evolved considerably over the past two decades and we have made multiple improvements and updates to our pilot facility in an effort to confirm compliance. These upgrades have consumed and continue to consume considerable time, effort and expense. We anticipate that the final capacity of this pilot facility will be approximately 5,000 to 7,500 units per year. At this manufacturing capacity, profitability can not be achieved. In June 2006, we purchased the 106,000 square foot building in Mount Prospect, Illinois in which our pilot manufacturing facility is located and plan to construct an expanded commercial manufacturing facility at this site if FDA approval for the marketing of PolyHeme is received. We currently do not have sufficient available funds to permit us to begin construction of this facility and we will need to raise additional funds, in addition to the net proceeds of this offering, before we are able to proceed with our planned manufacturing expansion. There can be no assurance that we will be able to raise additional funds for this purpose. If we are successful in raising sufficient funds to begin construction of a commercial manufacturing facility, we expect that completion of the facility, including FDA inspection and validation, will require approximately 24 to 30 months. Therefore, even if FDA approval for the marketing of PolyHeme is obtained, we will not be able to produce PolyHeme in sufficient quantities to achieve profitability for a substantial period of time. A commercial-scale manufacturing facility will be subject to FDA inspections and extensive regulation, including compliance with current good manufacturing practices and FDA approval of scale-up changes. Failure to comply may result in enforcement action, which may significantly delay or suspend manufacturing operations. We have no experience in large-scale manufacturing, and there can be no assurance that we can achieve large-scale manufacturing capacity. It is also possible that we may incur substantial cost overruns and delays compared to existing estimates in building and equipping a large-scale manufacturing facility. Moreover, in order to seek FDA approval of the sale of PolyHeme produced at a larger-scale manufacturing facility, we may be required to conduct additional studies with product manufactured at that facility. A significant delay in achieving scale-up of commercial manufacturing capabilities would have a material adverse effect on sales of PolyHeme.

There are significant competitors developing similar products.

We may be unable to compete successfully in developing and marketing our product. If approved for commercial sale, PolyHeme will compete directly with established therapies for acute blood loss and may compete with other technologies currently under development. We cannot ensure that PolyHeme will have advantages which will be significant enough to cause medical professionals to adopt it rather than continue to use established therapies or to adopt other new technologies or products. We also cannot ensure that the cost of PolyHeme will be competitive with the cost of established therapies or other new technologies or products. The development of hemoglobin-based oxygen-carrying products is a continuously evolving field. Competition is intense and may increase. Several companies have developed or are in the process of developing technologies which are, or in the future may be, the basis for products which will compete with PolyHeme. Certain of these companies are pursuing different approaches or means of accomplishing the therapeutic effects sought to be achieved through the use of PolyHeme. Some of these companies may have substantially greater financial resources, larger research and development staffs, more extensive facilities and more experience in testing, manufacturing, marketing and distributing medical products. We cannot ensure that one or more other companies will not succeed in developing technologies or products which will become available for commercial use prior to PolyHeme, which will be more effective or less costly than PolyHeme or which would otherwise render PolyHeme obsolete or non-competitive.

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Further, the regulatory climate for follow-on or generic versions of biological products approved under a BLA in the United States remains uncertain. Currently, there is no established statutory or regulatory pathway for the abbreviated approval of follow-on versions of biological products approved under a BLA, meaning that even after our intellectual property protections expire, a company seeking to market a copy of PolyHeme would have to conduct its own clinical trials and submit a completely independent BLA. However, members of Congress have expressed increasing interest in legislation to establish a statutory path for follow-on biological products. At this time, we cannot know with certainty when any such process may be adopted, or how it might affect our intellectual property rights, but any such process has the potential to have a material effect on PolyHeme s commercial success.

We do not have experience in the sale and marketing of medical products.

If approved for commercial sale, we currently intend to market PolyHeme in the United States using our own sales force. We have no experience in the sale or marketing of medical products, which are subject to significant regulations not applicable to the sale and marketing of other types of goods and services. PolyHeme may only be marketed and promoted for its approved use(s), and our sales force will be subject to a variety of regulatory and industry restrictions on their ability to aggressively pursue potential customers. If our sales and marketing teams fail to comply with these restrictions, we could be subject to significant liability.

Our ability to implement our sales and marketing strategy for the United States will depend on our ability to recruit, train and retain a marketing staff and sales force with sufficient technical expertise. We cannot ensure that we will be able to establish an effective marketing staff and sales force, that the cost of establishing such a marketing staff and sales force will not exceed revenues from the sale of PolyHeme or that our marketing and sales efforts will be successful.

Our profitability will be affected if we incur product liability claims in excess of our insurance coverage.

The testing and marketing of medical products, even after FDA approval, have an inherent risk of product liability. Claims by users of PolyHeme, or by others selling PolyHeme, could expose us to substantial product liability. We maintain limited product liability insurance coverage for our clinical trials in the total amount of $10 million. However, our profitability would be adversely affected by a successful product liability claim in excess of our insurance coverage. We cannot ensure that product liability insurance will be available in the future or be available on reasonable terms.

Our pivotal Phase III trial was conducted under a federal regulation that allows research to be conducted in certain emergent, life-threatening situations using an exception from the requirement for informed patient consent. Under the applicable federal regulation, an institutional review board at a trial site may give approval for patient enrollment in trials in emergency situations without requiring individual informed consent provided specific criteria are met. Individual informed consent is often a defense raised against product liability claims asserted by patients participating in clinical trials of medical products. We cannot ensure that IRB approval of patient enrollment in our trial, even if given in full compliance with the applicable federal regulations, will provide us with a defense against product liability claims by patients participating in our trial. It is also possible that we may be subject to legal claims by patients objecting to being enrolled in our trial without their individual informed consent, even if the patients do not suffer any injuries in connection with our trial.

We depend on the services of a limited number of key personnel.

Our success is highly dependent on the continued services of a limited number of skilled managers and scientists. The loss of any of these individuals could have a material adverse effect on us. In addition,

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our success will depend, among other factors, on the recruitment and retention of additional highly skilled and experienced management and technical personnel. Recent reductions in our staff and the placement of certain employees on part-time status may increase the difficultly in retaining and recruiting qualified employees. We have historically provided incentive compensation to our officers and employees in part through grants of stock options and restricted stock under our equity compensation plans. Decreases in the trading price of our common stock, however, have substantially reduced the value of equity compensation awards made to our officers and employees in prior years and such awards may not provide adequate compensation to retain such individuals. Our ability to provide competitive compensation to our officers and employees may also be adversely affected by our limited capital resources and anticipated need to raise substantial additional capital to continue our business. We cannot ensure that we will be able to retain existing officers employees or attract and retain additional skilled personnel on acceptable terms as a result of these factors as well as competition for such personnel from numerous large and well-funded pharmaceutical and health care companies, universities and non-profit research institutions.

We have significant severance and other obligations under agreements with our officers and employees and have agreed to grant a security interest in our manufacturing facility to secure a portion of these obligations.

We have entered into employment and severance protection agreements with each of our officers and certain of our key employees. These agreements provide for cash severance payments and the continuation of health insurance and other benefits for a specified period if the employment of the officer or employee is terminated by Northfield without cause or terminates under certain other circumstances, including a change in control of Northfield. Our aggregate contractual obligation under these agreements, determined as of November 30, 2008, was approximately $3.3 million. Our existing cash resources, including the proceeds of this offering, are not expected to be adequate to permit us to satisfy these severance obligations in full if we cease to conduct business and the employment of all or substantially all of these officers and key employees is terminated. We may accordingly enter into agreements with our officers and key employees that modify their severance arrangements. These modified arrangements may include an agreement that our severance obligations, should they become payable, may be deferred and satisfied in whole or in part from the proceeds of a future loan, sale, sale-leaseback, lease or similar transaction involving our owned manufacturing facility located in Mount Prospect, Illinois. If we enter into an arrangement of this type, the proceeds from a possible transaction involving our manufacturing facility would not be available to fund our ongoing operations to permit us to continue our business. Northfield s contractual responsibility for these severance and other benefit obligations may therefore cause us to cease or curtail our operations at an earlier date than would otherwise be the case if we were not required to satisfy these obligations.

Our ability to generate revenue from our product will depend on reimbursement and drug pricing policies and regulations.

Our ability to achieve acceptable levels of reimbursement for PolyHeme by governmental authorities, private health insurers and other organizations will have an effect on our ability to successfully commercialize PolyHeme. We cannot be sure that reimbursement in the United States, Europe or elsewhere will be available for PolyHeme or, if reimbursement should become available, that it will not be decreased or eliminated in the future. If reimbursement is not available or is available only at limited levels, we may not be able to successfully commercialize PolyHeme, and may not be able to obtain a satisfactory financial return on PolyHeme.

Third-party payers increasingly are challenging prices charged for medical products and services. Also, the trend toward managed health care in the United States and the changes in health insurance programs, as well as legislative proposals to reform health care or reduce government insurance programs, may result in lower prices for pharmaceutical products, including PolyHeme. Cost-cutting measures that health care providers are instituting, and the effect of any health care reform, could harm our ability to sell PolyHeme.

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Moreover, we are unable to predict what additional legislation or regulation, if any, relating to the health care industry or third-party coverage and reimbursement may be enacted in the future or what effect this legislation or regulation would have on our business. In the event that governmental authorities enact legislation or adopt regulations which affect third-party coverage and reimbursement, demand for PolyHeme may be reduced, thereby harming our sales and profitability.

Failure to obtain regulatory approval in foreign jurisdictions would prevent our product from being marketed abroad.

We have entered into a license agreements Hemocare Ltd., an Israeli corporation, to manufacture and distribute PolyHeme in certain Middle Eastern and African countries. The license agreement permits Hemocare to sell PolyHeme in return for the payment of royalties based upon sales of PolyHeme in the licensed territories. Hemocare has not to date conducted any manufacturing or distribution activities under its license and has not paid any royalties to Northfield.

In order for Hemocare or anyone else, including us, to market our products in many foreign jurisdictions, we or our licensees must obtain separate regulatory approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and can involve additional testing. The time required to obtain approval may differ from that required to obtain FDA approval. The foreign regulatory approval process entails all of the risks associated with obtaining FDA approval. We and our licensees may fail to obtain foreign regulatory approvals on a timely basis, if at all. Approval by FDA does not ensure approval by regulatory authorities in other countries, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other foreign countries or by FDA. We and our licensees may not be able to file for, and may not receive, necessary regulatory approvals to commercialize our product in any market. If we or our licensees fail to obtain these approvals, our business, financial condition and results of operations could be materially and adversely affected.

Failure to maintain effective internal controls over financial reporting could have a material adverse effect on our business, operating results and stock price.

Section 404 of the Sarbanes-Oxley Act of 2002 requires us to include a report by our management on our internal controls over financial reporting in our annual reports filed with the SEC. This report must contain an assessment by management of the effectiveness of our internal controls over financial reporting as of the end of our fiscal year and a statement as to whether or not our internal controls are effective.

Our efforts to comply with Section 404 have resulted in, and are likely to continue to result in, significant costs, the commitment of time and operational resources and the diversion of management s attention. If our management identifies one or more material weaknesses in our internal controls over financial reporting, we will be unable to assert our internal controls are effective. If we are unable to assert that our internal controls over financial reporting are effective, our business may be harmed. Market perception of our financial condition and the trading price of our stock may be adversely affected and customer perception of our business may suffer.

We are subject to a variety of federal, state and local laws, rules and regulations related to the discharge or disposal of toxic, volatile or other hazardous chemicals.

Although we believe that we are in material compliance with these laws, rules and regulations, the failure to comply with present or future regulations could result in fines being imposed on us, suspension of production or cessation of operations. Third parties may also have the right to sue to enforce compliance. Moreover, it is possible that increasingly strict requirements imposed by environmental laws and enforcement policies could require us to make significant capital expenditures. The operation of a manufacturing plant entails the inherent risk of environmental damage or personal injury due to the handling of potentially harmful substances, and there can be no assurance that we will not incur material

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costs and liabilities in the future because of an accident or other event resulting in personal injury or unauthorized release of such substances to the environment. In addition, we generate hazardous materials and other wastes that are disposed of at various offsite facilities. We may be liable, irrespective of fault, for material cleanup costs or other liabilities incurred at these disposal facilities in the event of a release of hazardous substances by such facilities into the environment.

We are subject to a putative class action lawsuit.

We, Dr. Steven A. Gould, Northfield s Chief Executive Officer, and Richard De Woskin, Northfield s previous Chief Executive Officer, are subject to a putative class action pending in the United States District Court for the Northern District of Illinois Eastern Division, purportedly brought on behalf of a class of Northfield s shareholders. The complaint alleges, among other things, that during the period from March 19, 2001 to March 20, 2006, the named defendants made or caused to be made a series of materially false or misleading statements and omissions about Northfield s elective surgery clinical trial and business prospects in violation of Section 10(b) of the Securities Exchange Act of 1934, as amended, and Rule 10b-5 promulgated thereunder and Section 20(a) of the Exchange Act. Plaintiffs allege that those allegedly false and misleading statements and omissions caused the purported class to purchase Northfield common stock at artificially inflated prices. As relief, the complaint seeks, among other things, a declaration that the action be certified as a proper class action, unspecified compensatory damages (including interest) and payment of costs and expenses (including fees for legal counsel and experts). If the outcome of this lawsuit is unfavorable to Northfield, or Northfield determines that it is advisable to enter into a settlement of the lawsuit, Northfield could be required to pay significant monetary damages or make significant settlement payments to the plaintiffs in the lawsuit. While Northfield maintains directors and officers liability insurance, there can be no assurance that the proceeds of this insurance will be available with respect to all or part of any damages, costs or expenses that may be incurred by Northfield in connection with the aforementioned putative class action lawsuit. In addition, Northfield is a party to indemnification agreements under which it may be required to indemnify and advance defense costs to its current and former directors and officers in connection with this putative class action lawsuit. Even if this lawsuit is ultimately resolved in favor of Northfield, Northfield still may incur substantial legal fees and expenses in defending the lawsuit.

Risk Relating to our Intellectual Property

Our success depends upon our ability to protect our intellectual property and our proprietary technology.

Our success depends in part on our ability to obtain and maintain intellectual property protection for PolyHeme as well as our technology and know-how. Our policy is to seek to protect PolyHeme and our technologies by, among other methods, filing United States and foreign patent applications related to our proprietary technology, inventions and improvements that are important to the development of PolyHeme. The patent positions of companies like ours are generally uncertain and involve complex legal and factual questions. Our ability to maintain and solidify our proprietary position for our technology will depend on our success in obtaining effective patent claims and enforcing those claims once granted. We do not know whether any of our patent applications will result in the issuance of any patents. Our issued patents and those that may issue in the future may be challenged, invalidated, rendered unenforceable or circumvented, which could limit our ability to stop competitors from marketing related products or the length of term of patent protection that we may have for PolyHeme.

Our United States patents have various expiration dates through 2025. Our broadest United States patent, however, has expired. The rights granted under our issued patents may not provide us with competitive advantages against competitors with similar compounds or technologies. Furthermore, our competitors may independently develop similar technologies or duplicate any technology developed by us in a manner that does not infringe our patents or other intellectual property. Because of the extensive time required for development, testing and regulatory review of PolyHeme, it is possible that, before PolyHeme can be commercialized, our patents relating to PolyHeme may expire or remain in force for only a short period following commercialization, thereby reducing any advantages of the patent.

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We rely on trade secrets and other confidential information to maintain our proprietary position.

In addition to patent protection, we also rely on protection of trade secrets, know-how and confidential and proprietary information. To maintain the confidentiality of trade secrets and proprietary information, we have entered into confidentiality agreements with our employees, consultants and collaborators upon the commencement of their relationships with us. These agreements require that all confidential information developed by the individual or made known to the individual by us during the course of the individual s relationship with us be kept confidential and not disclosed to third parties. Our agreements with employees also provide that inventions conceived by the individual in the course of rendering services to us will be our exclusive property. Individuals with whom we have these agreements may not comply with their terms. In the event of the unauthorized use or disclosure of our trade secrets or proprietary information, these agreements, even if obtained, may not provide meaningful protection for our trade secrets or other confidential information. To the extent that our employees, consultants or contractors use technology or know-how owned by others in their work for us, disputes may arise as to the rights in related inventions. Adequate remedies may not exist in the event of unauthorized use or disclosure of our confidential information. The disclosure of our trade secrets would impair our competitive position and could have a material adverse effect on our operating results, financial condition and future growth prospects.

We may be involved in lawsuits to protect or enforce our patents, which could be expensive and time consuming.

Competitors may infringe our patents. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that a patent of ours is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover its technology. An adverse determination of any litigation or defense proceedings could put one or more of our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing.

Interference proceedings brought by the United States Patent and Trademark Office may be necessary to determine the priority of inventions with respect to our patent applications or those of our collaborators or licensors. Litigation or interference proceedings may fail and, even if successful, may result in substantial costs and be a distraction to our management. We may not be able to prevent misappropriation of our proprietary rights, particularly in countries where the laws may not protect such rights as fully as in the United States.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, during the course of this kind of litigation, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock.

We may not prevail in any litigation or interference proceeding in which we are involved. Even if we do prevail, these proceedings can be very expensive and distract our management.

Third parties may own or control patents or patent applications that are infringed by our product or technologies.

Our success depends in part on avoiding the infringement of other parties patents and proprietary rights. In the United States, patent applications filed in recent years are confidential for 18 months, while older applications are not published until the patent issues. As a result, there may be patents of which we are unaware, and avoiding patent infringement may be difficult. We may inadvertently infringe third-party

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patents or patent applications. These third parties could bring claims against us that, even if resolved in our favor, could cause us to incur substantial expenses and, if resolved against us, could additionally cause us to pay substantial damages. Further, if a patent infringement suit were brought against us, we could be forced to stop or delay research, development, manufacturing or sales of PolyHeme in the country or countries covered by the patent we infringe, unless we can obtain a license from the patent holder. Such a license may not be available on acceptable terms, or at all, particularly if the third party is developing or marketing a product competitive with PolyHeme. Even if we were able to obtain a license, the rights may be nonexclusive, which would give our competitors access to the same intellectual property.

We also may be required to pay substantial damages to the patent holder in the event of an infringement. Under some circumstances in the United States, these damages could be triple the actual damages the patent holder incurs. If we have supplied infringing products to third parties for marketing or licensed third parties to manufacture, use or market infringing products, we may be obligated to indemnify these third parties for any damages they may be required to pay to the patent holder and for any losses the third parties may sustain themselves as the result of lost sales or damages paid to the patent holder.

Any successful infringement action brought against us may also adversely affect marketing of PolyHeme in other markets not covered by the infringement action. Furthermore, we may suffer adverse consequences from a successful infringement action against us even if the action is subsequently reversed on appeal, nullified through another action or resolved by settlement with the patent holder. The damages or other remedies awarded, if any, may be significant. As a result, any infringement action against us would likely delay the regulatory approval process, harm our competitive position, be very costly and require significant time and attention of our key management and technical personnel.

Risks Relating to this Offering

Our stock price could be volatile and your investment could suffer a decline in value.

The market price of our common stock has fluctuated significantly in response to a number of factors, many are which are beyond our control, including:

regulatory developments relating to our PolyHeme product;

announcements by us relating to the results of our clinical trials of PolyHeme;

developments relating to our efforts to obtain additional financing to fund our operations;

announcements by us regarding transactions with potential strategic partners;

announcements relating to blood substitute products being developed by our competitors;

changes in industry trends or conditions;

our issuance of additional equity or debt securities; and

sales of significant amounts of our common stock or other securities in the market.

In addition, the stock market in general, and the Nasdaq Global Market and the biotechnology industry market in particular, have experienced significant price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of listed companies. These broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance. In the past, securities class action litigation has often been instituted following periods of volatility in the market price of a company s securities. A securities class action suit against us could result in substantial costs, potential liabilities and the diversion of our management s attention and resources.

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If we fail to meet the continued listing requirements of the Nasdaq Global Market, our common stock may be delisted.

Our common stock currently trades on the Nasdaq Global Market. The Nasdaq Global Market maintains requirements applicable to Northfield for continued listing of our common stock, including a requirement to maintain a minimum bid price of at least $1.00 per share, a minimum market value of publicly traded shares of at least $5 million and minimum stockholders equity of at least $10 million. The Nasdaq Global Market has, however, temporarily suspended enforcement of its minimum bid price and market value of publicly traded shares requirements until April 20, 2009.

Our common stock currently trades at a price below $1.00 per share. Accordingly, at such time as the Nasdaq Global Market reinstitutes enforcement of its minimum bid price requirement, we may not be able to comply with this requirement. In the future, we also may not be able to comply with certain of the other continued listing requirements of the Nasdaq Global Market, including the $10 million minimum stockholders equity requirement.

Any delisting of our common stock from the Nasdaq Global Market is likely to reduce the trading volume and liquidity in our shares and may lead to further decreases in the trading price of our shares. The delisting of our shares may also prevent investors from purchasing shares of our common stock using margin loans provided by brokers or other financial institutions. Our ability to raise additional equity capital, which is critical to the continuation of our business, would also likely to be adversely affected by the delisting of our common stock from the Nasdaq Global Market.

Anti-takeover provisions contained in our charter and bylaws could discourage potential takeover attempts.

Our certificate of incorporation contains a fair price provision which requires approval of the holders of at least 80% of our voting stock, excluding shares held by certain interested stockholders and their affiliates, as a condition to mergers or certain other business combinations with, or proposed by, any holder of 15% or more of our voting stock, except in cases where approval of our disinterested directors is obtained or certain minimum price criteria and other procedural requirements are satisfied. In addition, our board of directors has the authority, without further action by our stockholders, to fix the rights and preferences and issue shares of preferred stock. These provisions, and other provisions of our certificate of incorporation and bylaws and Delaware law, may have the effect of deterring hostile takeovers or delaying or preventing changes in our control or management, including transactions in which stockholders might otherwise receive a premium for their shares over the then prevailing market prices.

There is a large number of shares that may be sold in the market following this offering, which may depress the market price of our common stock.

Sales of a substantial number of shares of our common stock or securities convertible into or exercisable for our common stock in the public market following this offering could cause the market price of our common stock to decline. If there are more shares of common stock offered for sale than buyers are willing to purchase, then the market price of our common stock may decline to a market price at which buyers are willing to purchase the offered shares of common stock and sellers remain willing to sell the shares. All of the shares sold in the offering will be freely tradeable without restriction or further registration under the Securities Act, except for any shares purchased by our affiliates as defined in Rule 144 of the Securities Act.

Our management has broad discretion to determine how to use the proceeds received from this offering.

Our management will have broad discretion as to the application of the net proceeds of this offering and could use them for purposes other than those contemplated at the time of this offering. Our stockholders may not agree with the manner in which our management chooses to allocate and spend the net proceeds. Moreover, our management may use the net proceeds for corporate purposes that may not increase the market price of our common stock.

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You will experience immediate and substantial dilution.

The public offering price of the securities offered hereby is likely to be substantially higher than the book value per share of our common stock. Investors purchasing securities in this offering may, therefore, incur immediate dilution in net tangible book value per share of the common stock issuable upon the conversion or exercise of the securities purchased in this offering. See Dilution for a more detailed discussion of the dilution you will incur in this offering.

USE OF PROCEEDS

We estimate that the net proceeds from the sale of the shares that we are offering at a price of $265 per share will be approximately $1,266,298 after deducting the estimated placement agency fees and offering expenses payable by us. We intend to use the net proceeds of this offering for general corporate purposes, including general and administrative expenses and expenses in connection with the regulatory review of our PolyHeme product. Pending any ultimate use of any portion of the proceeds, we intend to invest the proceeds in a variety of capital preservation investments, including short-term, interest-bearing, investment-grade securities and money-market funds.

DILUTION

Our net tangible book value as of November 30, 2008 was approximately $16.5 million, or $0.61 per share. Net tangible book value per share is calculated by subtracting our total liabilities from our total tangible assets, which is total assets less intangible assets, and dividing this amount by the number of shares of our common stock outstanding. After giving effect to the sale by us of the shares offered in this offering at a price of $265 per share of convertible preferred stock, or $0.265 per share of underlying common stock, and after deducting the estimated placement agency fees and offering expenses payable by us, our net tangible book value as of November 30, 2008 would have been approximately $17.8 million, or $0.56 per share of common stock. This represents an immediate decrease in the net tangible book value of $0.5 per share to the existing stockholders and an immediate increase in net tangible book value of $0.295 per share to new investors. The following table illustrates this per share dilution:

Price per share of underlying common stock to investors		$0.265
Net tangible book value per share as of November 30, 2008	$0.61	
Decrease per share attributable to new investors	$ 0.5	
Net tangible book value per share after this offering		$ 0.56
Increase in net tangible book value per share to new investors		$0.295

In the discussion and table above, we assume no exercise of outstanding stock options. As of November 30, 2008, there were 2,052,625 shares of common stock reserved for future issuance with respect to outstanding warrants and options issued under equity compensation plans for our directors, officers and employees at a weighted average exercise price of $8.37 per share.

The foregoing dilution information gives effect to the conversion of the shares of convertible preferred stock that are being offered pursuant to this prospectus supplement and the accompanying prospectus but does not reflect the exercise of any of the warrants included in this offering.

PLAN OF DISTRIBUTION

We are directly selling to an institutional purchaser 5,404.652 shares of convertible preferred stock and warrants to purchase 5,404,652 shares of common stock under this prospectus supplement. The convertible preferred stock is convertible at any time at the option of the holder into shares of our common stock at a conversion price of $0.265 per share. The warrants are exercisable at a price of $0.53 per share at any time after the six-month anniversary of the date of issuance and before the fourth anniversary of the initial exercise date.

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We estimate the gross proceeds from this offering will be approximately $1,432,232 and we estimate the net proceeds from the offering to be approximately $1,266,298 after deducting placement agency fees and the estimated costs payable by us associated with the offering. We have negotiated with the purchaser regarding the sale of the shares and warrants being offered hereunder, and have entered into a securities purchase agreement with the purchaser which sets forth the specific terms of the transaction. We anticipate that we will effect the sale of the aggregate of $5,404.652 shares of convertible preferred stock and warrants to purchase $5,404,652 shares of common stock in one or more closings.

Pursuant to a placement agency agreement dated March 11, 2009, we have engaged Rodman & Renshaw, LLC, or Rodman & Renshaw, to act as our exclusive placement agent in connection with this offering of our shares and warrants. Under the terms of the placement agency agreement, Rodman & Renshaw agreed to be our exclusive placement agent, on a best efforts basis, in connection with the issuance and sale by us of our shares and warrants in a proposed takedown from our registration statement of which this prospectus supplement is a part. The terms of any such offering will be subject to market conditions and negotiations between us, the placement agent and prospective purchasers. The placement agency agreement does not give rise to any commitment by Rodman & Renshaw to purchase any of the shares or warrants, and Rodman & Renshaw will have no authority to bind us by virtue of the placement agency agreement. Further, Rodman & Renshaw does not guarantee that they will be able to raise new capital in any prospective offering.

With respect to the offering, we have agreed to pay Rodman & Renshaw compensation as follows:

an aggregate placement agency fee to the placement agent equal to 6% of the gross proceeds received from the sale of shares and warrants in the offering;

a warrant to purchase a number of shares of common stock equal 6% of the total number of shares of common stock issuable upon the conversion or exercise of the shares of convertible preferred stock and warrants included in this offering. The placement agent s warrant is exercisable at a price of $0.6625 per share, has a term of 4.5 years and may not be exercised or transferred until six months after the date of the completion of this offering; and

reimbursement of the placement agent s reasonable out-of-pocket expenses, including the reasonable fees and expenses of the placement agent s legal counsel, incurred in connection with the offering, such expenses not to exceed an aggregate of .08% of the gross proceeds to us from this offering, but in any event not more than $30,000.

We will not pay any other compensation in connection with the sale of our shares and warrants pursuant to the placement agency agreement.

We have agreed to indemnify Rodman & Renshaw against certain liabilities arising in connection with the engagement, including liabilities under federal securities laws.

This is a brief summary of the material provisions of the placement agency agreement and does not purport to be a complete statement of its terms and conditions.

In compliance with the guidelines of the Financial Industry Regulatory Authority maximum consideration or discount to be received by any FINRA member may not exceed 8% of the aggregate amount of the securities offered pursuant to this prospectus supplement.

The transfer agent and depositary for our shares is ComputerShare Trust Company, N.A.

Our shares are traded on the Nasdaq Global Market under the symbol NFLD.

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DESCRIPTION OF CONVERTIBLE PREFERRED STOCK

The material terms and provisions of the convertible preferred stock being offered pursuant to this prospectus supplement and the accompanying prospectus are summarized below. This summary is subject to, and qualified in its entirety by, the terms and conditions set forth in the certificate of designation authorizing the convertible preferred stock, which will be provided to the purchaser in this offering.

We will authorize the convertible preferred stock by filing a certificate of designation with the Secretary of State of the State of Delaware. The certificate of designation may be authorized by our board of directors without approval by our stockholders.

The convertible preferred stock will be convertible at the option of the holder at any time into shares of our common stock at a conversion price of $0.265 per share. The conversion price of the convertible preferred stock will be subject to adjustment in the case of stock splits, stock dividends, combinations of shares and similar recapitalization transactions. The convertible preferred stock will be subject to automatic conversion into shares of common stock upon the occurrence of a change in control of Northfield and we may become obligated to redeem the convertible preferred stock upon the occurrence of certain triggering events, including the material breach by us of certain contractual obligations to the holders of the convertible preferred stock, the occurrence of a change in control of Northfield, the occurrence of certain insolvency events relating to Northfield or the failure of our common stock to continue to be listed or quoted for trading on one or more specified United States securities exchanges.

The convertible preferred stock does not provide for mandatory dividend rights. Except as required by law, holders of the convertible preferred stock are not entitled to voting rights, except that the affirmative vote of the holders of a majority of the outstanding shares of convertible preferred stock is required to take certain actions that may adversely affect the rights or preferences of the holders of convertible preferred stock.

The securities purchase agree