

NXSTAGE MEDICAL, INC. ANNUAL REPORT

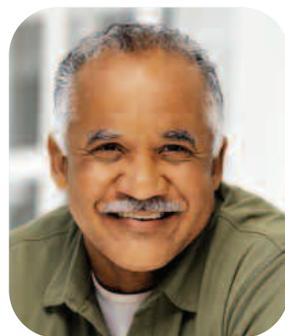
2006

Pure growth.



Nx STAGE

We're making more frequent dialysis
more accessible to more patients.



CEO'S LETTER



From the outset, NxStage has taken on the challenge of changing the way dialysis is delivered with the goal of improving the lives of people with End Stage Renal Disease (ESRD). I am pleased to report we have made significant progress toward this goal in 2006.

The past year has been a pivotal one for NxStage. We further solidified our role as an innovative team leading a movement to transform renal care. We also strengthened our position as an established enterprise with the capabilities to deliver on ambitious product and business goals. In the process, we have achieved growth in several dimensions: commercial, technological and human.

Achievements

Leveraging the breakthrough technology of the NxStage System One™, the world's smallest hemodialysis platform cleared for home use, we have continued to expand our impact on patients' lives. All of our achievements reflect the clinical value and benefits that the NxStage System One is designed to bring to patients, providers and payers. Specifically, we:

Achieved major adoption milestones. We surpassed our targeted 1000-patient milestone in November, 2006—more than tripling the number of patients benefiting from the NxStage System One in just one year. We saw centers add additional patients as well as increasing the number of centers offering our System from 70 to 174. In the critical care arena, we had 77 hospitals using the NxStage System One. By year end, we surpassed 1 million total hours of System One treatment experience.

Increased annual revenue by 247% to \$20.8

million. Revenues in the chronic home dialysis market totaled \$12.7 million, a 302% increase over the prior year. Revenues in the critical care market exceeded expectations, increasing 186% to \$8.1 million.

Expanded our product offering. Building on the success of the SystemOne, we strengthened our value proposition with the introduction of the PureFlow™ SL. The compact, easy-to-use PureFlow SL makes dialysis even simpler by preparing high-purity dialysate from ordinary tap water—overcoming another barrier to home dialysis. Together, the NxStage System One and PureFlow SL represent an integrated solution that makes home daily dialysis an attainable reality for many more ESRD patients. In addition to the patient benefits, Pureflow SL should significantly reduce our cost of goods over time.

Strengthened our organization to support future growth. We increased production capacity to meet the growing demand for NxStage products, while continuing to improve quality, as demonstrated by successful FDA and ISO audits. During 2006, NxStage initiated a number of expense reduction measures that helped improve gross margin by 34 points and laid the groundwork for further improvements in 2007 and beyond. We also expanded our training

and support organization to address the needs of a growing customer and patient base.

Initiated a frequent dialysis patient study. There is a growing body of evidence that more frequent dialysis results in significantly improved clinical outcomes, while also reducing the need for, and associated costs of, hospitalization and drugs. We designed the FREEDOM (Following Rehabilitation, Economics and Everyday Dialysis Outcome Measurements) study in order to quantify both the clinical benefits and the cost savings of daily therapy with the NxStage System One versus thrice-weekly, in-center dialysis.

Our growth in patients, providers and revenues is further evidence of the progress we are making in our mission to transform renal care with the industry's smallest and simplest solution for daily dialysis—at home, on the road or in the intensive care unit. Our approach is gaining acceptance because it delivers value to all of our key stakeholders:

- **for patients**, it is designed to improve their health and lifestyle
- **for providers**, it provides a cost-effective alternative therapy
- **for payers**, it should ultimately help to save costs by reducing hospitalization and drug expenses.

Goals for 2007

Looking ahead, plenty of hard work remains for us to accomplish our mission. We have identified a number of business goals for 2007 and beyond that we expect will enable our continued growth and improve our financial performance.

Enhance operating effectiveness. As we continue to build our infrastructure to support our growing business, we are implementing initiatives aimed at improving financial performance. In early 2007, we announced two long-term supply agreements for System One components. We also announced the planned initiation of manufacturing in a new

facility in Mexico. We expect that these relationships will enable us to meet the growing demand for System One, while reducing cost of goods as our business expands.

Increase adoption through our dialysis center partnerships. We will work to continue expanding our reach through our partnership agreements with leading dialysis service providers. In the opening weeks of 2007, NxStage signed multi-year agreements with three major dialysis service providers—DaVita, WellBound and Renal Advantage.

Advocate for progress. The renal care industry has seen little change in decades and there remain institutional barriers to more rapid adoption

We remain guided by our mission: to lead a movement to transform renal care with innovative yet simple solutions that benefit patients, caregivers, and society.

of daily and home dialysis. These include existing referral patterns, reimbursement and a need for broader recognition of the benefits of more frequent dialysis. NxStage is working to overcome these barriers through advocacy and education among patients, providers, payers, policy makers, and legislators.

Pure commitment

In conclusion, NxStage is well positioned to continue to grow the business and deliver a positive impact for all of our stakeholders.

We are motivated by our patients who have told us that NxStage has transformed their lives,

by clinicians who are excited about being able to expand their treatment options, and by payers who are realizing the financial benefits made possible by daily home dialysis with the NxStage System One.

We look forward to the next stage in our development as we build our business in an expanding market. We remain guided by our mission: to lead a movement to transform renal care with innovative yet simple solutions that benefit patients, caregivers, and society. We thank our shareholders, patients, employees and partners for their continued support.

The movement to transform dialysis is growing. NxStage is a key driver of that growth.



Jeff Burbank, CEO

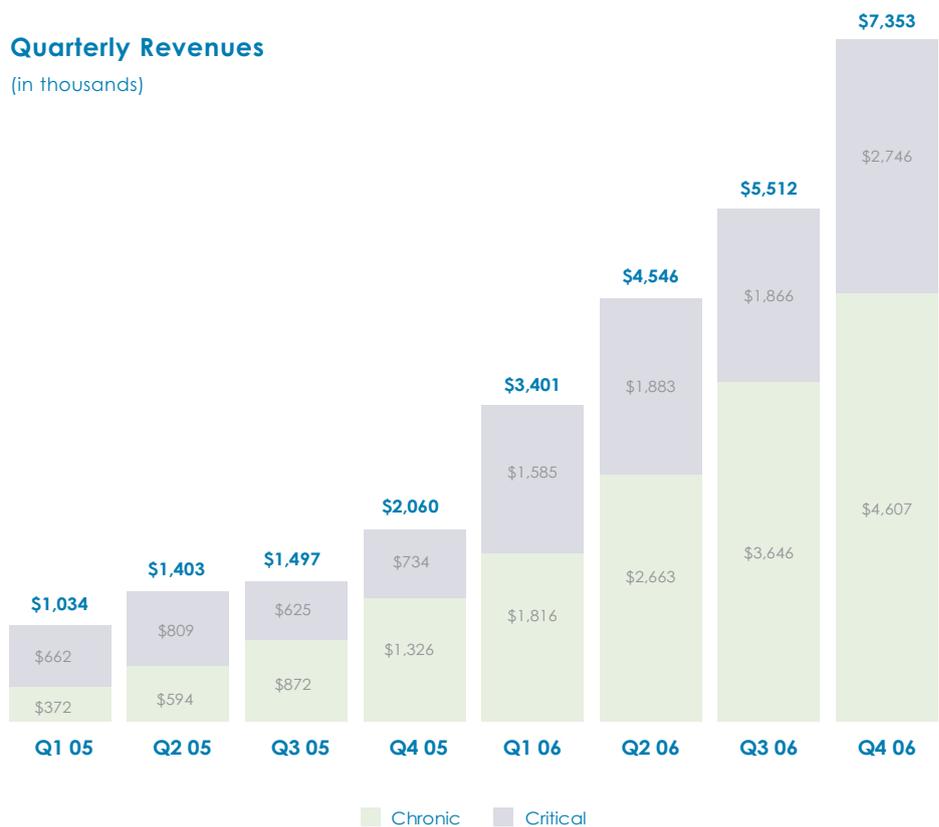
The NxStage Opportunity

- Large, growing market: ESRD patient population has grown 4-6% each year
- Two markets: Chronic (61% of 2006 revenues) and Critical Care (39% of 2006 revenues)
- Recurring revenue model: Ongoing disposable supply sales
- Established medicare reimbursement: opportunity for additional payments if medically justified
- Breakthrough technology: Smallest dialysis system FDA cleared for home use



Quarterly Revenues

(in thousands)



A Growing Need

For the more than 450,000 Americans with End Stage Renal Disease (ESRD), treatment has changed little in 40 years. For most patients, therapy consists of dialysis three times each week at a dialysis center. The impact of this regimen on patients' health and daily lives can be profoundly disruptive.

Mortality rates in the U.S. for ESRD patients have also remained static over the decades. Each year, approximately 24% of ESRD patients die, often due to diabetes, hypertension and other serious conditions related to kidney dysfunction.

In the face of these realities, there is growing demand for new therapy options. Patients, clinicians and dialysis centers are seeking new alternatives due to the convergence of several factors:

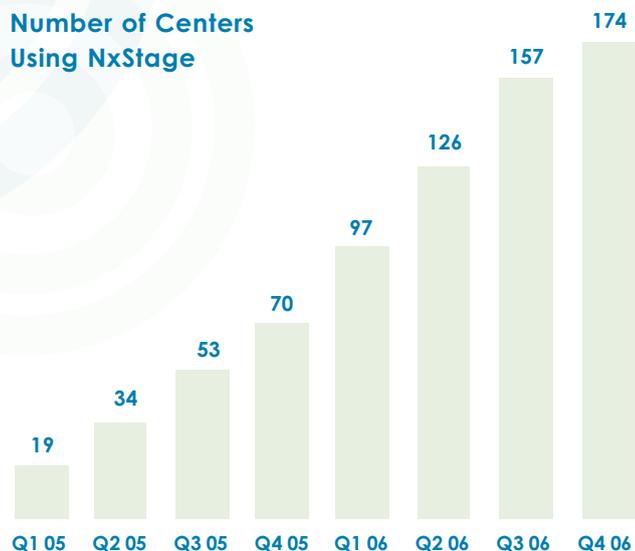
Growing patient population. Sources indicate that each year, approximately 100,000 patients are diagnosed with ESRD. The number of patients on dialysis is projected to double over the next 10-15 years. Yet the number of clinicians and staff available to care for them is not keeping pace.

Increasing costs. Annual dialysis costs in the U.S. approach \$65,000 per patient, for a total cost of care exceeding \$20 billion in the U.S. alone.

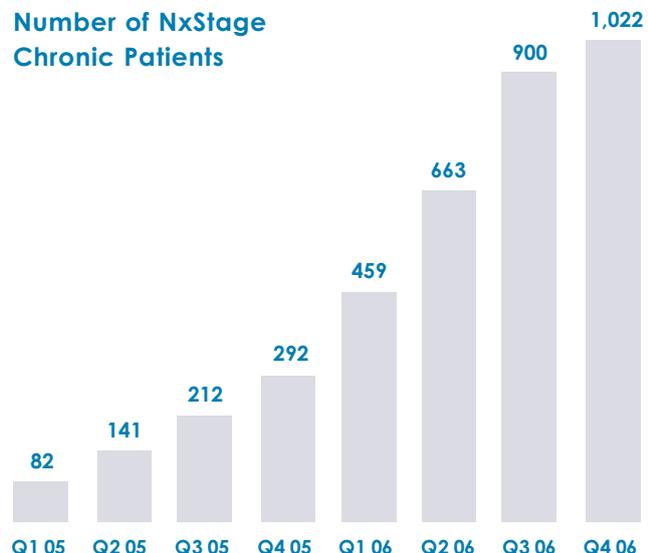
Changing treatment protocols. Recognition of the health benefits of more frequent dialysis is growing, bolstered by an expanding body of clinical literature. Studies have shown daily dialysis can reduce mortality, improve patient health and reduce hospitalization rates. The benefits of dialysis at home are already well understood: dramatically enhanced patient freedom, control and quality of life.

Due to these compelling trends, an increasing number of patients and clinicians have advocated daily home dialysis. The limitations of conventional dialysis clinic logistics and equipment have prevented broader adoption of this new approach to dialysis. Until now.

Number of Centers Using NxStage



Number of NxStage Chronic Patients



Significant Opportunity

While home dialysis accounts for just a small proportion of the hemodialysis market today, we believe that 10-15% of U.S. dialysis patients, or 35,000-50,000 U.S. patients, could take advantage of home therapies — creating a potential \$600 to \$900 million market in the U.S. alone.

We aim to help the healthcare system realize significant savings, up to \$20,000 per patient per year.

Clinical literature is quite supportive of the benefits of home daily therapy and its potential to reduce drug and hospitalization costs. Together, these represent half the annual costs of dialysis patient care.



A Unique Value Proposition

NxStage overcomes the limitations of traditional dialysis technology with innovative yet simple solutions that make daily dialysis—at home or on the road—not only possible, but also practical.

By expanding and simplifying the delivery of daily home hemodialysis, NxStage brings significant value to all key stakeholders in the renal care market:

Providers

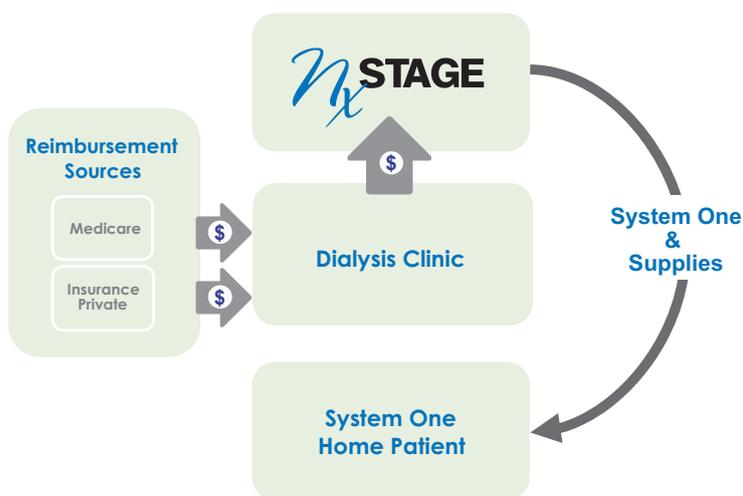
NxStage enables increased growth and profitability, allowing dialysis service providers to deliver more frequent home therapy to more patients—including patients living further away—without expanding costly infrastructure or staff. These advantages are driving an increasing number of dialysis clinics to expand their home dialysis programs.

Patients

Clinicians have reported that home daily therapy can dramatically improve patients' lives, offering enhanced health, control and freedom—including the freedom to work normal schedules and to travel.

Payers

Payers have reported that more frequent dialysis should help them, on average, to realize annual ESRD per-patient savings of \$9,000 to \$20,000 through reduced hospital and drug costs.



Powerful Partnership

The NxStage home therapy model helps dialysis centers expand treatment options and enhance revenue, while controlling operational costs.

In 2006, we tripled the number of patients benefiting from NxStage therapy to more than 1,000.

The number of patients on home hemodialysis had been in steady decline for 30 years. NxStage has helped change that, enabling home hemodialysis market growth of over 50% in the past two years.



An Expanding Product Portfolio

At the core of NxStage's value proposition is its innovative technology. NxStage products overcome many barriers of traditional hemodialysis equipment to make renal care simpler, more flexible and portable—without compromising safety.

NxStage System One

Introduced in 2003, for the treatment of ESRD, the NxStage System One is the first truly portable hemodialysis system cleared for home use. Designed from the ground up to be simple, convenient and easy to use, the System One has demonstrated its potential to make daily home dialysis a practical reality for many more patients.

The System One's performance has been established through more than 1 million hours of therapy. Today, more than 1,000 ESRD patients enjoy the benefits of more frequent dialysis, thanks to the System One. And we're just getting started.

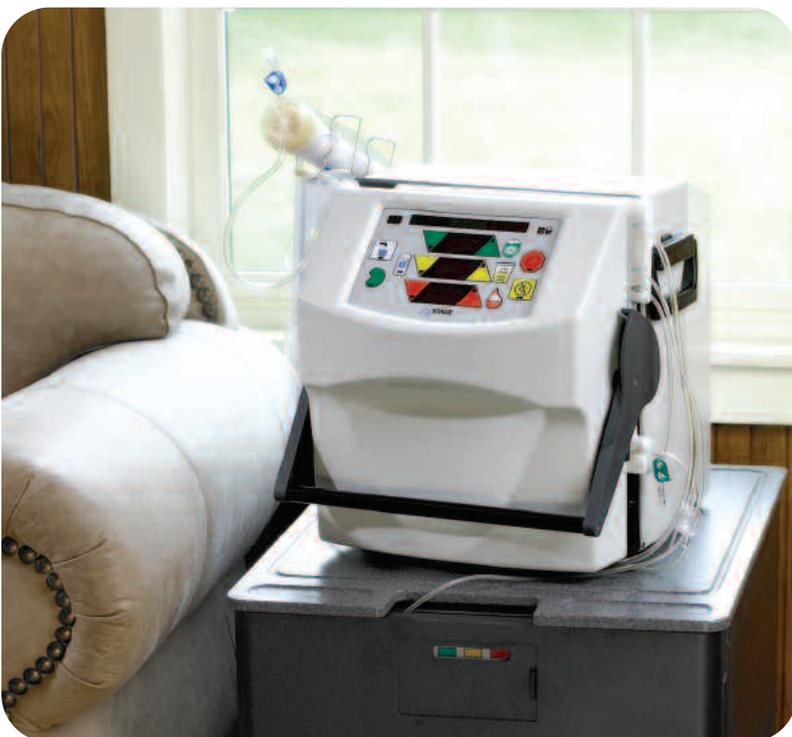
PureFlow SL

With the introduction of the PureFlow SL in 2006, we made home dialysis even simpler. Using the PureFlow SL, patients can prepare high-purity dialysate from ordinary tap water. This eliminates the cost and inconvenience of storing, changing and disposing of dialysate fluid bags for treatments at home. Like the System One, the PureFlow SL is simple to use and small—about the size of an end table.

Together, the NxStage System One and the PureFlow SL represent an integrated solution that makes daily home dialysis easier and more practical than ever. When patients travel, they can use our PureFlow Express Bags of premixed dialysate, giving them the best of both worlds.

Technology Leadership

NxStage has a talented R&D team with more than 200 years of combined renal care experience. NxStage has built a patent portfolio of 25 issued patents and 49 worldwide patent applications (as of December 2006) related to our novel technologies for fluid management, disposable single use dialysis/filtration cartridges, innovative safety systems, and information and data systems.



Critical Impact

The System One has also made an impact in critical care settings. A growing number of U.S. hospitals have adopted the System One, giving clinicians the flexibility to deliver the more intensive renal therapies they believe will help their patients, while helping to reduce the strain on overburdened critical care staff and resources.



Dedicated Support

NxStage has made significant investments in training and support to enhance the success of patients and providers. Our Support Specialists are available 24 x 7 to provide technical assistance and service.

In 2006, we grew the number of dialysis centers offering NxStage therapy from 70 to 174.

Patient-friendly, and requiring approximately half the training time of traditional home hemodialysis options, the NxStage System One breathes new life and enthusiasm into home dialysis training programs.

A Growing Movement

NxStage is poised to make even more significant strides toward its goal of changing the way hemodialysis is delivered—and changing the lives of thousands of patients with chronic renal disease. The movement toward more frequent, more flexible dialysis is gaining momentum. NxStage is helping to drive that movement with:

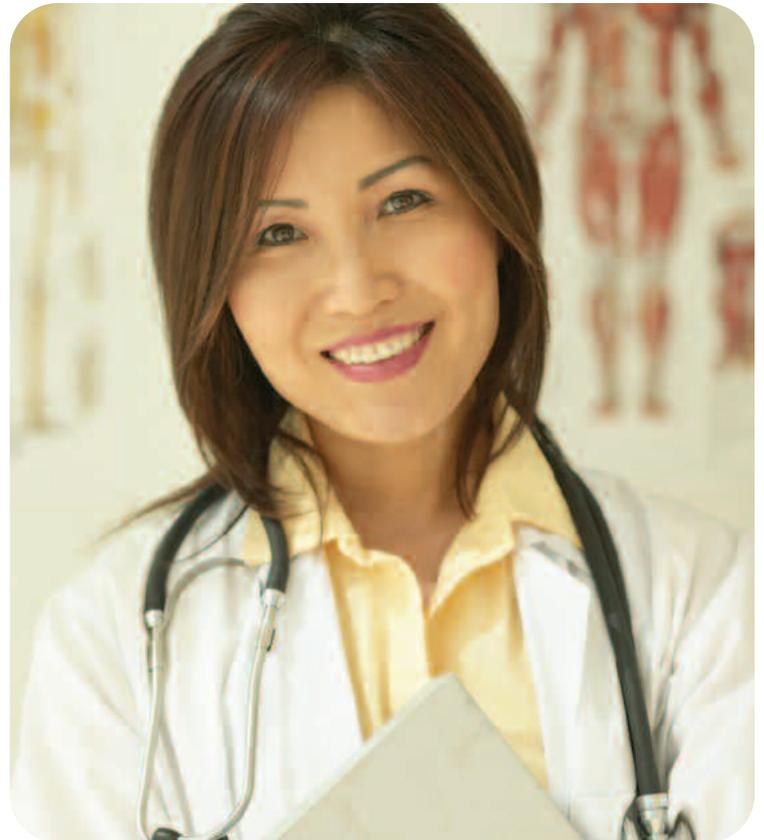
Growth in adoption of NxStage technology in both chronic care and critical care markets, as evidenced by demonstrated increases in patients, dialysis centers, hospitals, and revenue.

An expanding portfolio of innovative yet simple products that are designed to overcome the barriers that have historically prevented a better, more normal life on dialysis.

Enhanced operational strength through expanding production capabilities with continuous quality improvement.

Increased awareness of the benefits of daily and home therapy and of NxStage's leading role in helping realize those benefits.

Compelling value proposition to all key stakeholders with solutions that help to deliver real advantages to patients, providers and payers.



CORPORATE INFORMATION

Board of Directors

Philippe O. Chambon, MD, PhD,
Chairman
Managing Director
NLV Partners, LLC

Jeffrey H. Burbank
President and Chief Executive Officer
NxStage Medical, Inc.

Daniel A. Giannini
Retired Partner
PricewaterhouseCoopers LLP

Craig W. Moore
Retired; Former Chairman and Chief
Executive Officer
Everest Healthcare Services
Corporation

Reid S. Perper
Managing Director
Healthcare Investment Partners, LLC

Peter P. Phildius
Chairman and Chief Executive Officer
Avitar, Inc

David S. Utterberg
President and Chief Executive Officer
Medisystems Corporation

Corporate Officers

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President and Chief Executive Officer

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Senior Vice President and
Chief Financial Officer

Philip R. Licari
Senior Vice President and
Chief Operating Officer

Winifred L. Swan
Senior Vice President, Secretary and
General Counsel

Joseph E. Turk, Jr.
Senior Vice President,
Commercial Operations

Corporate Headquarters

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Transfer Agent

Inquiries concerning the transfer or
exchange of shares, lost stock
certificates, duplicate mailings or
changes of address should be
addressed to the Company's Transfer
Agent at:
Computershare Trust Company, N.A.
P.O. Box 43078
Providence, RI 02940-3078
781-575-3100
www.computershare.com

Independent Registered Accountants

Ernst & Young LLP
200 Clarendon Street
Boston, MA 02116

Annual Meeting

The Annual Meeting of Stockholders
will be held on Wednesday, May 30,
2007 at 10:00 a.m. at the offices of
WilmerHale, 60 State Street, Boston, MA
02109

Market for NxStage Medical, Inc Stock

Nasdaq Global Market
Common Stock: NXTM

Investor Information

Copies of our annual reports on
Form 10-K, proxy statements, quarterly
reports on Form 10-Q, and current
reports on Form 8-K are available to
stockholders upon request without
charge. Please visit our website at
www.nxstage.com or send requests to:

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This report and certain information incorporated by reference herein contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, concerning our business, operations and financial condition, including statements with respect to the market adoption of our products, the growth of the chronic and critical care dialysis markets in general and the home hemodialysis market in particular, the development and commercialization of our products, the adequacy of our funding and our ability to obtain additional funding, our ability to achieve profitable operations, the scope of patent protection with respect to our products, expectations with respect to the clinical findings of our FREEDOM study, and the impact of recent and possible future changes to reimbursement for chronic dialysis treatments. All statements other than statements of historical facts included in this report regarding our strategies, prospects, financial condition, costs, plans and objectives are forward-looking statements. When used in this report, the words "expect", "anticipate", "intend", "plan", "believe", "seek", "estimate", "potential", "continue", "predict", "may", and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Such forward-looking statements are subject to a number of risks and uncertainties that could cause actual results to differ materially from those anticipated, including, without limitation, the risks identified in our annual report on Form 10-K and our other filings with the Securities and Exchange Commission. We assume no obligation to update any forward-looking information contained in this annual report.



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