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UNITED STATES
SECURITIES AND EXCHANGE COMM
Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2008

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission File No. 0-14680

GENZYME CORPORATION

(Exact name of registrant as specified in its charter)

Massachusetts	**06-1047163**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
500 Kendall Street Cambridge, Massachusetts	**02142**
(Address of principal executive offices)	(Zip Code)

(617) 252-7500

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	**Name of each exchange on which registered**
Genzyme Common Stock, $0.01 par value ("Genzyme Stock")	The Nasdaq Global Select Market
Genzyme Stock Purchase Rights	The Nasdaq Global Select Market

Securities registered pursuant to Section 12(g) of the Act:

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

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

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

Indicate by check mark whether the registrant is a shell company (as defined by Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

Aggregate market value of voting stock held by non-affiliates of the Registrant as of June 30, 2008: $19,124,677,445.

Number of shares of Genzyme Stock outstanding as of January 31, 2009: 271,352,703

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's Proxy Statement for the Annual Meeting of Shareholders scheduled to be held on May 21, 2009, are incorporated by reference into Part III of this Form 10-K.

NOTE REGARDING REFERENCES TO OUR COMMON STOCK

Throughout this Form 10-K, the words "we," "us," "our" and "Genzyme" refer to Genzyme Corporation as a whole, and "our board of directors" refers to the board of directors of Genzyme Corporation.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Form 10-K contains forward-looking statements. These forward-looking statements include, among others, statements regarding:

- United States Food and Drug Administration, or FDA, action on our marketing application for alglucosidase alfa produced at the 2000 liter bioreactor, or 2000L, scale, the impact of the timing of this action on our 2009 earnings and our expected timing for filing for U.S. approval of product produced at the 4000 liter bioreactor, or 4000L, scale;
- our expectations regarding sales of Myozyme and the availability of product supply;
- our expected timing for anticipated approvals of Renvela in new territories, including the European Union, and for approval of an expanded label for Renvela in the U.S.;
- our expectations for sales of Renagel/Renvela and Hectorol and the anticipated drivers for the future growth of these products;
- our expected 2009 launches of Synvisc-One and Sepraspray in new territories;
- our expected timing for marketing approval of Mozobil in Europe;
- our expectations for FDA action on our application for use of clofarabine to treat adult patients with acute myeloid leukemia and expected timing of our regulatory submission in the European Union for this indication;
- our expected timing for regulatory approval for new manufacturing capability, including for Renvela, Campath and Thymoglobulin;
- the issuance of a warning letter by the FDA regarding certain of our manufacturing processes at our Allston, Massachusetts facility and our assessment of the quality of the safety profile of the products produced at this facility;
- our assessment of competitors and potential competitors and the anticipated impact of potentially competitive products and services on our revenues;
- our estimates of the potential markets for our products and services;
- Cerezyme's future contribution to our revenues and our expectations regarding its current growth trends;
- anticipated inventory write-offs, including write-offs for Myozyme;
- our intention to pursue our rights with respect to insurance coverage for our settlement of a class action lawsuit under a director and officer liability insurance program;
- our assessment of the financial impact of legal proceedings and claims on our financial position and results of operations;
- the sufficiency of our cash, investments and cash flows from operations and our expected uses of cash;
- our U.S. and foreign income tax audits, including our provision for potential liabilities;
- the protection afforded by our patent rights;
- our estimates of the cost to complete our research and development programs and the estimated timetables for clinical trials, regulatory filings, product approvals and product launches for

existing products for use in new indications and for new and next-generation products, including GENZ-112638, our advanced phosphate binder, Hectorol, mipomersen, clofarabine, and alemtuzumab for multiple sclerosis;

- our expectations regarding the impact of changes in foreign exchange rates on revenues;
- our assessment of the deductibility of amounts allocated to goodwill;
- our expectations regarding the amortization of intangible assets related to our expected future contingent payments due to Synpac (North Carolina), Inc. and Wyeth; and
- our assessment of the impact of recent accounting pronouncements.

These statements are subject to risks and uncertainties, and our actual results may differ materially from those that are described in this report. These risks and uncertainties include:

- our ability to successfully complete preclinical and clinical development of our products and services;
- our ability to secure regulatory approvals for our products, services and manufacturing facilities and processes, and to do so in the anticipated timeframes, including our ability to obtain regulatory approvals for an expanded Renvela label and for alglucosidase alfa produced at the 2000L scale in the United States and the timing of receipt of such approvals;
- regulatory authority views regarding the safety, efficacy and risk-benefit profiles of our products;
- the content and timing of submissions to and decisions made by the FDA, the European Agency for the Evaluation of Medicinal Products, or EMEA, and other regulatory agencies related to our products and services and the facilities and processes used to manufacture our products;
- our ability to accurately forecast the impact of regulatory delays on our revenues, costs and earnings;
- our ability to manufacture sufficient amounts of our products for development and commercialization activities and to do so in a timely and cost-effective manner;
- our ability to satisfy the post-marketing commitments made to regulatory agencies as a condition of the marketing approvals of Fabrazyme, Aldurazyme, Myozyme, Clolar and Mozobil;
- our ability to obtain and maintain adequate patent and other proprietary rights protection for our product and services and successfully enforce these proprietary rights;
- the scope, validity and enforceability of patents and other proprietary rights held by third parties and their impact on our ability to commercialize our products and services;
- our reliance on third parties to provide us with materials and services in connection with the manufacture of our products;
- the accuracy of our estimates of the size and characteristics of the markets to be addressed by our products and services, including growth projections;
- market acceptance of our products and services in expanded areas of use and new markets;
- our ability to successfully identify and market to new patients;
- our ability to increase market penetration of our products and services both outside and within the United States;
- the accuracy of our information regarding the products and resources of our competitors and potential competitors;
- competition from lower cost generic or biosimilar products;
- the availability of reimbursement for our products and services from third party payors, the extent of such coverage and the accuracy of our estimates of the payor mix for our products;

- our ability to effectively manage wholesaler inventories of our products and the levels of their compliance with our inventory management programs;
- our ability to continue to generate cash from operations and to effectively use our cash resources to grow our business;
- our ability to establish and maintain strategic license, collaboration and distribution arrangements and to successfully manage our relationships with licensors, collaborators, distributors and partners;
- the impact of changes in the exchange rate for the Euro and other currencies on our product and service revenues in future periods;
- the resolution of our dispute with our insurance carriers regarding our claim for coverage under a director and officer liability insurance program;
- the outcome of legal proceedings by or against us;
- the impact of our recent and future merger and acquisition activity;
- the outcome of our IRS and foreign tax audits;
- general economic conditions; and
- the possible disruption of our operations due to terrorist activities, armed conflict, severe climate change or outbreak of diseases, including as a result of the disruption of operations of regulatory authorities, our subsidiaries, manufacturing facilities, customers, suppliers, distributors, couriers, collaborative partners, licensees or clinical trial sites.

We refer to more detailed descriptions of these and other risks and uncertainties in Item 1A, "Risk Factors," of this Form 10-K. We encourage you to read those descriptions carefully. We caution investors not to place substantial reliance on the forward-looking statements contained in this Form 10-K. These statements, like all statements in this Form 10-K, speak only as of the date of this report (unless another date is indicated), and we undertake no obligation to update or revise the statements in light of future developments.

NOTE REGARDING INCORPORATION BY REFERENCE

The United States Securities and Exchange Commission, commonly referred to as the SEC, allows us to disclose important information to you by referring you to other documents we have filed with them. The information that we refer you to is "incorporated by reference" into this Form 10-K. Please read that information.

NOTE REGARDING TRADEMARKS

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PART I

ITEM 1. BUSINESS

Introduction

We are a global biotechnology company dedicated to making a major impact on the lives of people with serious diseases. Our broad product and service portfolio is focused on rare disorders, renal diseases, orthopaedics, cancer, transplant and immune disease, and diagnostic and predictive testing. We were formed as a Delaware corporation in 1981 and became a Massachusetts corporation in 1991.

In the fourth quarter of 2008, we changed our segment reporting structure to better reflect the way we manage and measure the performance of our businesses. Under the new reporting structure, we are organized into four financial reporting units, which we also consider to be our reporting segments:

- Genetic Diseases, which develops, manufactures and distributes therapeutic products, with an expanding focus on products to treat patients suffering from genetic diseases and other chronic debilitating diseases, including a family of diseases known as lysosomal storage disorders, or LSDs. The unit derives substantially all of its revenue from sales of Cerezyme, Fabrazyme, Myozyme and Aldurazyme.
- Cardiometabolic and Renal, which develops, manufactures and distributes products that treat patients suffering from renal diseases, including chronic renal failure, and endocrine and cardiovascular diseases. The unit derives substantially all of its revenue from sales of Renagel/ Renvela (including sales of bulk sevelamer), Hectorol, and Thyrogen.
- Biosurgery, which develops, manufactures and distributes biotherapeutics and biomaterial-based products, with an emphasis on products that meet medical needs in the orthopaedics and broader surgical areas. The unit derives substantially all of its revenue from sales of Synvisc, the Sepra line of products, Carticel and Matrix-induced Autologous Chondrocyte Implantation, or MACI.
- Hematologic Oncology, which develops, manufactures and distributes products for the treatment of cancer. The unit derives substantially all of its revenue from sales and royalties received on sales of Campath and clofarabine. This unit also includes Mozobil, which received marketing approval in the United States in December 2008. Clofarabine is marketed under the name Clolar in North and South America and as Evoltra elsewhere in world.

Our transplant business unit, which develops, manufactures and distributes therapeutic products that address pre-transplantation, prevention and treatment of graft rejection in organ transplantation and other hematologic and auto-immune disorders, and our genetics business unit, which provides testing services for the oncology, prenatal and reproductive markets, were formerly reported as separate reporting segments. Beginning with this report, we now include our transplant and genetics business units under the caption "Other." We also report the activities of our diagnostic products, bulk pharmaceuticals and immune mediated disease business units under the caption "Other." These operating segments did not meet the quantitative threshold for separate segment reporting.

We report our corporate, general and administrative operations and corporate science activities under the caption "Corporate." Effective January 1, 2008, as a result of changes in how we review our business, certain general and administrative expenses that were formerly allocated amongst our reporting segments and "Other" are now allocated to Corporate.

We have reclassified our 2007 and 2006 segment disclosures to conform to our 2008 presentation.

Products and Services

Genetic Diseases

Our Genetic Diseases segment derives substantially all of its revenue from the following therapeutic products:

Product	Indication	Approvals
Cerezyme/Ceredase	Type 1 Gaucher disease; Type 3 Gaucher disease (Cerezyme/European Union only)	Ceredase sold commercially since 1991; Cerezyme marketed since 1994; marketing approval received in more than 60 countries and commercial sales in more than 55 countries
Fabrazyme	Fabry disease	Marketed in the European Union since 2001, the United States since 2003, and Japan since 2004; marketing approval received in 48 countries and commercial sales in approximately 40 countries; post-marketing commitments in Europe have been completed and full approval received; several post-marketing commitments on-going in the United States
Myozyme	Pompe disease	Received marketing approval in the European Union in March 2006, in the United States in April 2006, in Canada in August 2006 and in Japan in April 2007; marketing approval received in 44 countries and commercial sales in more than 30 countries; several post-marketing commitments ongoing; additional regulatory filings will be submitted in countries where we have an established presence
Aldurazyme	Mucopolysaccharidosis I (MPS I)	Marketed in the United States and the European Union since 2003; marketing approval received in 58 countries and commercial sales in approximately 40 countries; several post-marketing commitments on-going

Cerezyme, Fabrazyme, Myozyme and Aldurazyme are each aimed at treating LSDs with patient populations of less than 10,000 worldwide. We market and sell these products directly to physicians, hospitals, treatment centers, pharmacies and government agencies worldwide. Sales are also made through distributors. Additional details on these products are set forth below.

Cerezyme (imiglucerase). We are marketing Cerezyme as an enzyme replacement therapy for the treatment of Gaucher disease, an LSD that can be life-threatening and that is caused by a deficiency in the enzyme glucocerebrosidase, which causes fatty deposits to build up in certain organs and bones leading to a wide variety of symptoms, including anemia, spleen and liver enlargement and bone deterioration. Treatment with Cerezyme enzyme replacement therapy currently represents the only safe and effective enzyme replacement therapy approved for treatment of Type 1 Gaucher disease. In the European Union, Cerezyme is also approved for the treatment of patients who exhibit clinically significant, non-neurological manifestations of the disease (Type 3 Gaucher disease).

Our results of operations are highly dependent on sales of Cerezyme, although our dependence is lessening as we diversify our product portfolio. Sales of Cerezyme totaled $1.2 billion, or 27% of our total revenue in 2008; $1.1 billion, or 30% of our total revenue in 2007; and $1.0 billion, or 32% of our total revenue in 2006.

We are preparing to initiate two phase 3 studies of Genz-112638, an oral therapy that could provide an additional treatment option for patients with Gaucher disease. Patient enrollment is expected to begin in the first half of 2009.

Fabrazyme (agalsidase beta). We developed Fabrazyme, a recombinant form of the human enzyme alpha-galactosidase, as a treatment for Fabry disease. Fabry disease is an LSD that is caused by a deficiency of the enzyme alpha-galactosidase A, which leads to the progressive accumulation of lipids within cells of the kidneys, heart and other organs. In agreement with the FDA and EMEA, we undertook a number of post-marketing commitments, and have completed a phase 4, multi-national, multi-center, double-blind placebo-controlled study in patients with advanced disease in addition to dose-maintenance and pediatric studies. The EMEA approved new labeling for Fabrazyme based largely on the results from the phase 4 study in mid-2005. In January 2007, the results of this trial were published in the *Annals of Internal Medicine*. In May 2007, the data from a phase 3 extension trial were also published. This data showed that Fabrazyme stabilizes renal function in Fabry patients over a 54 month period. In early 2008, the EMEA granted full marketing authorization for Fabrazyme, making it the only product on the market for Fabry disease to earn this designation in the European Union. Because kidney failure is associated with Fabry disease, Fabrazyme is sold by our existing sales forces for our LSD and renal products.

Sales of Fabrazyme totaled $494.3 million, or 11% of our total revenue in 2008; $424.3 million, or 11% of our total revenue in 2007; and $359.3 million, or 11% of our total revenue in 2006.

Myozyme (alglucosidase alfa). We are marketing Myozyme as a therapy for Pompe disease, a progressive, debilitating and often fatal muscle disease resulting from an inherited enzyme deficiency. Pompe disease is an LSD that manifests as a broad spectrum of clinical symptoms, with variable rates of progression ranging from rapidly progressive and often fatal within the first year of life to relentlessly progressive resulting in significant morbidity and premature mortality. Myozyme is the first and only treatment approved for Pompe disease and is indicated for all patients with the disorder. Myozyme specifically targets the underlying cause of Pompe disease by replacing the enzyme that is absent or deficient.

We completed in late 2007 a Late Onset Treatment Study (LOTS) conducted in juvenile and adult patients with Pompe disease. The LOTS results are expected to be published in a major medical journal in the first half of 2009. The LOTS results were submitted to the EMEA for potential inclusion of the results in the Myozyme product labeling in Europe in the first half of 2009. The results of the LOTS study were also submitted to the FDA as the basis of a separate biologics license application, or BLA, in May 2008 to gain marketing approval in the United States for alglucosidase alfa produced at the 2000L scale at our Allston, Massachusetts manufacturing facility. In April 2008, the FDA concluded that alglucosidase alfa produced at the 160 liter bioreactor, or 160L, scale and 2000L scale should be classified as two different products because of analytical differences observed as part of comparability efforts supporting the manufacturing change. In October 2008, an FDA advisory committee affirmed by a vote of 16 to 1 that our LOTS results established the clinical effectiveness of alglucosidase alfa produced at the 2000L scale for the treatment of patients with late-onset Pompe disease.

On February 27, 2009, we received a complete response letter from the FDA regarding our application. In the letter, the FDA outlines the items that need to be addressed before the application can be approved. These items include finalizing agreement with the FDA on the design of a post-approval verification study to demonstrate the clinical benefit of alglucosidase alfa produced at the 2000L scale, as required under the FDA's accelerated approval process; finalizing agreement with the

FDA on a Risk Evaluation and Mitigation Strategy (REMS) for the product; finalizing labeling discussions with the FDA; and providing the FDA with information regarding specific chemistry, manufacturing and controls (CMC) questions and with a safety update. We also need to resolve issues identified in a warning letter relating to our Allston manufacturing facility that we received with the complete response letter. The warning letter is described in more detail below under the heading "Government Regulation." A satisfactory resolution of the FDA's warning letter is required before the agency will approve our application for alglucosidase alfa produced at the 2000L scale. If this application is approved by the FDA, the product produced using the 2000L scale process will be marketed as Lumizyme in the United States; the currently FDA-approved product produced using the 160L scale process will continue to be marketed as Myozyme.

In February 2009, we received approval from the European Commission to market Myozyme produced at our manufacturing facility in Belgium using the 4000L scale process. We anticipate filing for U.S. marketing approval of product produced using the 4000L scale process in the first half of 2009.

Aldurazyme (laronidase). In 1998, we formed a joint venture with BioMarin Pharmaceutical Inc., or BioMarin, to develop and market Aldurazyme, a recombinant form of the human enzyme alpha-L-iduronidase, to treat an LSD known as MPS I. MPS I is a progressive, debilitating, and often life-threatening disease that encompasses a wide and continuous spectrum of clinical presentations, historically classified as "Hurler," "Hurler-Scheie" and "Scheie" syndromes.

Through 2007, Aldurazyme revenues were recorded by the joint venture. We included our portion of the net income (loss) of BioMarin/Genzyme LLC in equity in income of equity method investments in our consolidated statements of operations. Effective January 1, 2008, we restructured the relationship regarding the manufacturing and commercialization of Aldurazyme by entering into several new agreements. Under the new agreements, BioMarin/Genzyme LLC no longer engages in commercial activities related to Aldurazyme and solely holds the intellectual property relating to Aldurazyme and other collaboration products and engages in research and development activities that are mutually selected and funded by BioMarin and us, the costs of which are shared equally. BioMarin/Genzyme LLC licenses all intellectual property relating to Aldurazyme and other collaboration products on a royalty-free basis to BioMarin and us. BioMarin holds the manufacturing rights and we hold the global marketing rights and pay BioMarin a tiered payment ranging from 39.5% to 50% of worldwide net product sales of Aldurazyme.

Cardiometabolic and Renal

Our Cardiometabolic and Renal segment derives substantially all of its revenue from the following products:

Renagel (sevelamer hydrochloride)/Renvela (sevelamer carbonate). Renagel and Renvela are non-absorbed, calcium-free, metal-free phosphate binders indicated for the control of serum phosphorus in patients with chronic kidney disease (CKD) on dialysis.

Renagel was approved for sale in the United States in 1998, Israel in 1999, the European Union and Canada in 2000, Brazil in 2002, Japan in 2003, Argentina and Australia in 2005, Chile and Peru in 2006, Mexico in 2007, and Russia and South Africa in 2008. In the United States, there are an estimated 379,000 end-stage renal disease patients, approximately 90% of whom receive a phosphate control product. There are also an estimated 350,000 end-stage renal disease patients in Europe, 65,000 in Brazil, 20,000 in Canada and 260,000 in Japan. We are now marketing Renagel in over 60 countries. Renagel is available in 400 and 800mg tablets.

In the fourth quarter of 2007, the FDA granted marketing approval for Renvela, a second generation, buffered form of Renagel. In March 2008, we launched Renvela for dialysis patients in the United States. Renvela is available as 800mg tablets. Renvela offers all of the advantages of Renagel with the added benefit of a carbonate buffer. We are pursuing regulatory approvals for Renvela in

Europe, Latin America and other international markets. We anticipate approval of Renvela in the European Union, Canada and several Latin American countries in the first half of 2009. While Renagel will remain available for a period of time, our goal is to transition patients in the United States to Renvela by the fourth quarter of 2009.

In October 2007, an FDA advisory committee voted to recommend that the agency extend the indications for phosphate binder use in patients with hyperphosphatemia who have not progressed to dialysis. Based on this positive recommendation, we and two other companies submitted a position paper to the FDA in June 2008 regarding the expanded use of phosphate binders. We received written responses from the FDA and are in the process of responding to the agency. There is no PDUFA date associated with this expanded label approval process; however, we anticipate that this indication will be added to Renvela's label in the United States by the middle of 2009. We included this indication in our marketing application for Renvela in Europe, and anticipate approval in the first half of 2009. In addition, we have filed for approval of a powder form of Renvela to provide an additional option for physicians and patients that reduces pill burden and assists patients that have difficulty swallowing tablets.

In December 2008, we filed an investigational new drug application, or IND, for our advanced phosphate binder, Genz-644470, and we expect to begin a phase 2/3 trial in 2009. Genz-644470 is a non-absorbed polymer designed to more selectively bind phosphate for a substantial improvement in potency over existing therapies.

We market our sevelamer therapies in the United States, Europe, Canada, Latin America and Australia directly to nephrologists through a dedicated sales force. In the United States, approximately 85%—90% of our Renagel/Renvela sales are made to three large wholesalers. These wholesalers distribute Renagel/Renvela to retail pharmacies, hospitals and other providers of medication to patients. Chugai Pharmaceutical Co., Ltd. and its partner, Kyowa Hakko Kirin Co., Ltd., have rights to develop and market Renagel in Japan, China and other Pacific Rim countries.

Our sales of Renagel/Renvela (including sales of bulk sevelamer), totaled $677.7 million, or 15% of our total revenue in 2008; $602.7 million, or 16% of our total revenue in 2007; and $515.1 million, or 16% of our total revenue in 2006.

Hectorol (doxercalciferol). Hectorol is a line of vitamin D_2 pro-hormone products that are indicated for the treatment of secondary hyperparathyroidism in patients with stages 3 and 4 CKD (0.5 mcg and 2.5 mcg capsules) and in patients with stage 5 CKD on dialysis (2.5 mcg capsules and injection). Hectorol provides significant parathyroid hormone (PTH) reductions with minimal impact on calcium and phosphorus levels. Three formulations of the product have been approved for commercial sale in the United States—a 2.5 mcg capsule, a 0.5 mcg capsule and an intravenous ("IV") formulation. In the United States, we have filed for approval of a customer-preferred vial container to replace the current IV ampule and also for a 1.0 mcg capsule. Both of these line extensions are expected to launch in the first half of 2009.

We market Hectorol in the United States through a direct sales force focused on nephrologists. Approximately 85%—90% of our U.S. Hectorol capsule sales are made to three large wholesalers, who then sell and distribute the product to retail pharmacies, hospitals and other providers of medication to patients. For Hectorol IV, approximately 85%—90% of our sales are made to three primary wholesalers who then sell and distribute the product to dialysis chains and hospitals. In the United States, approximately 65% of end-stage renal disease patients receive vitamin D. We estimate that there are more than 2.5 million patients in the United States with stage 3 and stage 4 CKD who have elevated PTH levels, although only a much smaller number of patients are being treated for the condition.

In 2007, Genzyme filed an IND for the use of Hectorol in psoriasis patients. We initiated a clinical trial in this indication in early 2008, with Phase II results expected in the middle of 2009.

Thyrogen (thyrotropin alfa for injection). Thyrogen is an adjunctive diagnostic agent used in the follow-up of patients with well-differentiated thyroid cancer. We developed this product to allow patients to continue taking their thyroid hormone supplements while they are being screened for residual or recurring thyroid cancer. Thyrogen helps patients avoid the morbidities associated with hypothyroidism, thus increasing the likelihood that they will seek follow-up care. This will ultimately increase the likelihood of early detection of any recurrent disease, which can improve the success rate of subsequent treatment. We have been marketing Thyrogen for this indication in the United States since 1998, Brazil since 2000 and the European Union since 2001. In October 2008, we received marketing approval in Japan.

In December 2007, we received FDA approval to market Thyrogen as an adjunctive treatment for ablation or destruction of thyroid remnants in patients who have undergone removal of their thyroid for the treatment of well-differentiated thyroid cancer. This indication compliments the diagnostic use of Thyrogen in that it enables use for an additional stage of thyroid cancer management. As in its diagnostic use, Thyrogen allows patients to remain on thyroid hormone therapy while undergoing radioiodine ablation, thus helping prevent the morbidities associated with hypothyroidism. Another advantage to Thyrogen use is that patients taking Thyrogen clear radioiodine more rapidly from their bodies than do patients receiving thyroid hormone withdrawal. We received marketing approval for this indication in the European Union and Australia in 2005 and Brazil in 2006.

There are approximately 65,000 new patients diagnosed with thyroid cancer annually in the United States and European Union combined, and we believe that Thyrogen has the potential to be used with approximately 70% of these patients. We sell Thyrogen commercially in approximately 60 countries. Thyrogen is promoted by a dedicated sales force, and sold to hospitals and doctors' offices through distributors in the United States, the European Union, Latin America and Australia. Sato Pharmaceutical Co., Ltd, has rights to sell and distribute Thyrogen in Japan. We currently are pursuing additional market or expanded indication approvals for Thyrogen in Canada, South Korea, Taiwan, the Philippines, South Africa, Belarus, Chile and Venezuela.

Biosurgery

Our Biosurgery segment derives substantially all of its revenue from the following products:

Synvisc (hylan G-F 20). Synvisc is a biomaterial-based product derived from hyaluronan that is used to treat the pain associated with osteoarthritis of the knee. An estimated 8 to 9 million of the approximately 14 million people in the United States with osteoarthritis of the knee may be candidates for treatment with Synvisc. Synvisc is available for commercial sale in over 60 countries, and is sold through a direct sales force in the United States and Europe and other larger markets and through marketing and distribution arrangements in our smaller markets.

We have been investing in research and clinical trials to expand the use of Synvisc to additional joints and through next-generation approaches. Synvisc is approved for the treatment of pain associated with osteoarthritis of the hip in 24 countries outside of the United States, and in the European Union, Hong Kong, Israel and Malaysia, Synvisc is approved for the treatment of pain associated with osteoarthritis of the hip, ankle and shoulder.

In 2007, we received approval to market Synvisc-One, a single-injection regimen of Synvisc, in the European Union. In February 2009, we received marketing approval for Synvisc-One in the United States. Synvisc-One is sold commercially in approximately twelve countries and we expect to launch the product in an additional ten countries in 2009.

Sepra Products. The Sepra family of products is aimed primarily at preventing adhesions (internal scar tissue) following various surgical procedures in the abdomen and pelvis. These products are produced from biomaterials derived from hyaluronan. We market the Sepra products primarily through a direct sales force in the United States, France and Australia, and primarily through distribution

arrangements in Japan and the rest of the world. Our Sepramesh IP hernia mesh product is marketed by Davol, Inc., a subsidiary of C.R. Bard, Inc., under a license agreement.

Seprafilm, the first marketed product and largest by sales volume of the Sepra family, is the only FDA-approved product clinically proven to reduce the incidence, extent and severity of postsurgical adhesions in both the abdomen and pelvis. There are approximately 2 million applicable abdominal and pelvic procedures performed annually in the United States, including 1.1 million Caesarean sections, a largely untapped market. The combined total market for these procedures outside of the United States is approximately equal to the United States market. Seprafilm is sold commercially in approximately 24 countries.

In 2008, we received approval to market Sepraspray, an easier to apply version of Seprafilm, in Europe and in certain countries in Asia. We expect to launch Sepraspray in several markets in Europe and Asia in 2009. Sepraspray is currently in clinical development to support regulatory approval in the United States and Japan.

Hematologic Oncology

Our Hematologic Oncology segment includes the following products:

Campath (alemtuzumab). Campath is indicated as a single agent for the treatment of B-cell chronic lymphocytic leukemia (B-CLL). In September 2007, the FDA approved a supplemental biologics license application (sBLA) for Campath and approved expanded labeling for Campath to include first-line treatment of B-CLL. In December 2007, we also received European approval of an expanded indication. We estimate that there are over 13,000 patients in the United States and 16,000 outside of the United States now eligible to receive the product. Campath is marketed and distributed by Bayer HealthCare Pharmaceuticals Inc. (Bayer) in the United States as Campath and outside the United States by Bayer Schering Pharma AG as MabCampath. The product is sold commercially in over 60 countries.

Clolar/Evoltra (clofarabine). Clolar is indicated in the United States for the treatment of pediatric patients 1 to 21 years old with relapsed or refractory acute lymphoblastic leukemia (ALL) after at least two prior regimens. An estimated 300 children experience a second relapse and require therapy every year in the United States. In October 2007, with our acquisition of Bioenvision, we acquired worldwide rights to clofarabine. Clofarabine has approval in 27 European countries and Israel for the treatment of pediatric ALL patients who have relapsed or are refractory after receiving at least two prior regimens and where there is no other treatment option anticipated to result in a durable response. Clofarabine has also been approved in Mexico. We have filed for approval of clofarabine in Canada, Brazil and Argentina. We market clofarabine under the brand name Clolar in North and South America and as Evoltra elsewhere in the world. We market clofarabine primarily through a direct sales force focused on hematologists and oncologists in the hospital setting.

We are developing the intravenous formulation of Clolar for significantly larger indications, including first-line and relapsed or refractory acute myeloid leukemia (AML) in adults. In November 2008, we filed a supplemental New Drug Application with the FDA for the use of Clolar to treat previously untreated adults age 60 years or older with AML who have at least one unfavorable prognostic factor. We are also developing an oral formulation of Clolar and have initiated clinical trials for the treatment of myelodysplastic syndrome (MDS). Clofarabine has been granted orphan drug status for ALL and AML in both the United States and European Union.

Mozobil (plerixafor injection). Mozobil is indicated in the United States in combination with granulocyte-colony stimulating factor (G-CSF) to mobilize hematopoietic stem cells to the peripheral blood for collection and subsequent autologous transplantation in patients with non-Hodgkin's lymphoma (NHL) and multiple myeloma (MM). In December 2008, we received marketing approval for Mozobil in the United States. Prior to this approval, more than 1,000 patients had received Mozobil through a compassionate use program in the United States. An additional 250 patients received Mozobil through similar compassionate use programs in Europe since they began in the first half of 2008. Mozobil has been granted orphan drug status in the United States for use to improve the yield of progenitor cells in the apheresis product for subsequent stem cell transplantation following myelosuppressive or myeloablative chemotherapy. We market Mozobil in the United States primarily through a direct sales force focused on hematologists/oncologists and transplant specialists nationwide.

We have submitted an application in Europe for marketing approval of Mozobil with a proposed indication to enhance mobilization of hematopoietic stem cells to the peripheral blood for collection and subsequent autologous transplantation in patients with lymphoma and MM. We expect EMEA action on the application in the second half of 2009. We have also filed applications in Australia and Brazil with this proposed indication. We have approval to sell Mozobil in Mexico based on an exemption from registration related to Mozobil's orphan drug status in the United States. It is estimated that approximately 55,000 hematopoietic stem cell transplants are performed each year globally for MM, NHL, Hodgkin's lymphoma, and other conditions. We have begun early preclinical and clinical investigations to explore additional therapeutic indications for Mozobil, including mobilization of hematopoietic stem cells for allogeneic stem cell transplants and tumor sensitization in oncology/hematology treatments such as AML.

Competition

We are engaged in segments of the human healthcare products and services industry that are highly competitive. Our competitors in the United States and elsewhere include major pharmaceutical, biotechnology, diagnostic testing and medical device companies, and generic and biosimilar manufacturers. Some of these competitors may have more extensive research and development, regulatory, manufacturing, production, and sales and marketing capabilities. Some competitors may have greater financial resources. These companies may succeed in developing products and services that are more effective or more economical than any that we have or may develop and may also prove to be more successful than we are in manufacturing, marketing and selling products and services. In addition, technological advances or different approaches developed by one or more of our competitors may render our products and services obsolete, less effective or uneconomical. Each of our products and services faces different competitive challenges, and we describe many of them below.

Genetic Diseases

Cerezyme. Zavesca® is currently the only other marketed product aimed at treating Gaucher disease. Zavesca is a small molecule oral therapy marketed by Teva Pharmaceutical Industries Ltd. in Israel and Actelion Ltd. in the United States and the European Union. Zavesca has been approved for use in patients with mild to moderate Type 1 Gaucher disease for whom enzyme replacement therapy is unsuitable. To date, virtually all Gaucher disease patients who have received enzyme therapy have experienced strong clinical benefits with few side effects, so Zavesca has not had a significant impact on our sales of Cerezyme. We are aware of other on-going development efforts directed towards the treatment of the disease. Shire plc is conducting phase 3 clinical trials for its gene-activated human glucocerebrosidase (GA-GCB) product. In addition, Protalix Biotherapeutics Ltd. is conducting phase 3 trials with their plant-derived human glucocerebrosidase (prGCD) therapy. Lastly, Amicus Therapeutics, Inc. is conducting phase 2 trials using Plicera™, an experimental oral pharmacological chaperone for the treatment of Gaucher disease. Other competitors could develop competitive products based on protein replacement therapy, small molecule or gene therapy approaches. Orphan drug status for Cerezyme, which provided us with exclusive marketing rights for Cerezyme in the U.S. for seven years, expired in 2001.

Fabrazyme. Fabrazyme has marketing exclusivity in the United States until 2010 due to its orphan drug status. Replagal®, Shire's enzyme replacement therapy for Fabry disease, competes with Fabrazyme in the European Union, Australia, Canada, Japan, Iceland, Israel, New Zealand, Norway, Romania, Switzerland, Brazil and Taiwan. Amicus Therapeutics has completed phase 2 studies of Amigal™, its experimental small molecule pharmacological chaperone treatment for Fabry disease, and is in discussions with the FDA and EMEA regarding the conduct of phase 3 clinical trials.

Myozyme. Myozyme has marketing exclusivity in the United States until 2013 and in the European Union until 2016 due to its orphan drug status. Amicus Therapeutics has completed two

phase 1 clinical studies for a small molecule pharmacologic chaperone treatment for Pompe disease and initiated a phase 2 clinical trial in June 2008. In February 2009, Amicus announced that the company had suspended enrollment for its phase 2 clinical trial and that it had received verbal notice from the FDA that the trial is on clinical hold.

Aldurazyme. Aldurazyme has marketing exclusivity in the United States until 2010 and in the European Union until 2013 due to its orphan drug status. There are currently no other biopharmaceutical products on the market to treat MPS I. For some patients, particularly Hurler patients under two years of age, hematopoietic stem cell transplantation may be an appropriate treatment.

Cardiometabolic and Renal

Renagel/Renvela. Renagel and Renvela are phosphate binders for the treatment of hyperphosphatemia. Renagel is the most prescribed phosphate binder in the United States. Phosphate binders are currently the only available therapeutic treatments for hyperphosphatemia, or elevated serum phosphorus levels, in CKD patients on dialysis. There are several phosphate binder options available, including PhosLo®, a prescription calcium acetate preparation sold by Fresenius Medical Care, and Fosrenol®, a prescription lanthanum carbonate sold by Shire. PhosLo is marketed in the United States as are other branded and generic calcium preparations available worldwide. A generic formulation of PhosLo manufactured by Roxane Laboratories, Inc. was launched in the United States in October 2008. Fosrenol is marketed in the United States, Europe, Canada and Latin America. Other products used as phosphate binders include over-the-counter calcium-based antacids such as TUMS® and metal-based options such as aluminum and magnesium.

The doses necessary for calcium products to achieve adequate reductions in phosphate absorption can lead to harmful side effects such as hypercalcemia. Evidence suggests that increasing doses of calcium-based binders may lead to cardiac calcification. Aluminum hydroxide, a metal-based treatment option, is more effective at lowering phosphorus, but it is infrequently used because aluminum absorbed from the intestinal tract accumulates in the tissues of patients with chronic kidney failure, causing aluminum-related osteomalacia, anemia and dementia. Lanthanum, the metal-based option marketed by Shire as Fosrenol, is an effective phosphate binder but with limited long-term safety data. Several animal studies suggest lanthanum absorption may lead to harmful toxicities.

Hectorol. Dialysis providers typically select which therapy a CKD patient receives to treat secondary hyperparathyroidism based on safety, efficacy and cost. The majority of patients on dialysis receive an IV form of therapy, and patients with secondary hyperparathyroidism who have not advanced to dialysis generally receive the oral form. Abbott Laboratories, Inc. markets intravenous calcitriol (brand name Calcijex®) and intravenous paricalcitol (brand name Zemplar®) for end-stage renal disease patients. Zemplar is viewed to offer similar efficacy and safety to Hectorol. Current intravenous versions of these drugs are approved to manage secondary hyperparathyroidism in end-stage renal disease patients in the United States, Europe, and in major Latin American markets. In 2005, Abbott received approval to market oral paricalcitol (Zemplar) in the United States for patients with stages 3 and 4 CKD. Zemplar's 1.0 mcg dose has been the primary source of growth for the brand. Since 2004, Amgen, Inc. has been marketing in the United States an oral calcimimetic agent (brand name Sensipar®) for the treatment of secondary hyperparathyroidism in patients with CKD on dialysis. The majority of patients studied on this calcimimetic agent were also taking Vitamin D hormone to treat secondary hyperparathyroidism. Roche Pharmaceuticals, a division of F. Hoffman-LaRoche Ltd. (Roche), markets oral calcitriol (brand name Rocaltrol®) and Teva markets generic oral calcitriol in the United States to manage secondary hyperparathyroidism in CKD patients. These two products are approved in the United States for the treatment of elevated parathyroid hormone in both end-stage renal disease and pre-dialysis CKD patients.

Thyrogen. Thyrogen has no competitive product in the market. The medical alternative to Thyrogen is to withdraw the patient from thyroid hormone replacement therapy, which makes the patient hypothyroid and may cause many of the co-morbidities associated with hypothyroidism.

Biosurgery

Synvisc. Synvisc and Synvisc-One face competition from other viscosupplementation products in the United States and international markets. These other products compete with Synvisc and Synvisc-One based on price and product performance. Current competition for Synvisc and Synvisc-One includes Supartz®, a product manufactured by Seikagaku Kogyo that is sold in the United States by Smith & Nephew Orthopaedics and in Japan by Kaken Pharmaceutical Co. under the name Artz®; Hyalgan®, produced by Fidia Farmaceutici S.p.A. and marketed in the United States by Sanofi-Aventis; Orthovisc®, produced by Anika Therapeutics, Inc. and marketed in the United States by Johnson & Johnson and marketed outside the United States through distributors; Euflexxa™, a product manufactured and sold by Ferring Pharmaceuticals in the United States and Europe; and Durolane®, manufactured by Q-Med AB and marketed outside the United States by Smith & Nephew Orthopedics.

Durolane and Euflexxa, the most recently approved products in Europe and the United States, respectively, are produced by bacterial fermentation, as opposed to Synvisc and Synvisc-One, which are avian-sourced. Production via bacterial fermentation may represent a competitive advantage for these products. In addition, the treatment protocol for Durolane is single-injection. We have received approval to market Synvisc-One in the European Union and the United States. We believe that single injection products will have a competitive advantage over multiple injection products. We are aware of various viscosupplementation products on the market or in development, including some that are pursuing single injection delivery, but are unaware of any products that have physical properties of viscosity, elasticity or molecular weight comparable to those of Synvisc and Synvisc-One. Single injection products include Anika's Monovisc™, which is marketed in Europe, and Seikagaku Kogyo's Gel-200, which is under PMA review with the FDA. We are also unaware of any products that achieve our duration of efficacy with only three injections or any other single injection products with duration of efficacy comparable to Synvisc-One.

Sepra Products. The Sepra products face competition from other adhesion prevention technologies. Another competitive factor affecting the adoption of Sepra products is the extent to which surgeons continue to treat patient conditions using procedures for which the Sepra products are indicated. For example, Seprafilm adhesion barrier is not indicated for use in laparoscopic procedures, so adoption by surgeons of new laparoscopic procedures could have the effect of limiting Seprafilm adhesion barrier adoption. Sepraspray, however, can be used in laparoscopic procedures in those markets where it is approved.

Seprafilm does not have significant on-label direct competition in the area of digestive surgery in the United States, but does compete with other products in gynecologic surgery indications. Baxter Healthcare currently markets Adept® Adhesion Reduction Solution, which is a liquid solution approved in the United States for gynecologic laparoscopic adhesiolysis. The labeled indications for Seprafilm and Adept are mutually exclusive, though off-label use of each may result in limited competition. Gynecare Worldwide, a division of Ethicon, Inc., a Johnson & Johnson company, markets Interceed®, a sheet adhesion barrier similar in intended use to Seprafilm with an indicated use only for open gynecological procedures. In Japan, Seprafilm competes with Interceed. We are aware of additional products that are in early clinical development. Outside the United States and Japan, Seprafilm competes with several adhesion prevention products, primarily Adept and Interceed.

Hematologic Oncology

Campath. Campath has become a well-established therapy for the treatment of relapsed or refractory B-cell chronic lymphocytic leukemia (B-CLL) patients since its initial FDA approval in May 2001 as the only monoclonal antibody therapy indicated for the treatment of B-CLL. Other therapies administered to patients with relapsed or refractory B-CLL include single agent and combination chemotherapy regimens and rituximab, which is marketed as Rituxan® by Biogen Idec, Inc. and Genentech, Inc. in the United States and as MabThera® by Roche outside of the United States. In March 2008, Cephalon, Inc. began marketing Treanda (bendamustine) in the United States, a chemotherapy approved for the treatment of B-CLL. The use of Campath as an initial therapy for B-CLL has increased following the FDA approval expanding Campath's indication to include all lines of B-CLL therapy. Other therapies under clinical study for the treatment of B-CLL include ofatumumab, lumiliximab and lenalidomide.

Clolar/Evoltra. Since FDA approval in December 2004, Clolar has penetrated significantly into its labeled indication for the treatment of pediatric patients 1 to 21 years old with relapsed or refractory ALL after at least two prior regimens. Other therapies available for patients in second relapse include cytarabine and mitoxantrone. These agents are available as generics with no significant commercial promotion. Arranon® (nelarabine), marketed by GlaxoSmithKline, is indicated for the treatment of patients with T-cell ALL whose disease has not responded to or has relapsed following treatment with at least two chemotherapy regimens. T-cell ALL is estimated to represent less than 20% of pediatric ALL patients. There are a limited number of anti-cancer agents in clinical trials for the treatment of relapsed pediatric ALL patients, including epratuzamab, which is being developed by Immunomedics, Inc.

Mozobil. The primary competition for Mozobil is existing methodologies for mobilizing stem cells, which include the use of various chemotherapy agents in combination with growth factors and the use of growth factors alone. Mozobil is the first known small molecule indicated in combination with G-CSF to mobilize hematopoietic stem cells to the peripheral blood for collection and subsequent autologous transplantation in patients with NHL and MM. Mozobil competes with existing methodologies because, for certain patients, Mozobil will allow them to mobilize a sufficient number of stem cells to proceed to autologous stem cell transplant, which they may not have been able to achieve with the existing methodologies. For a larger segment of the patient population, in contrast to existing methodologies, Mozobil may decrease the number of apheresis sessions required to collect a sufficient number of stem cells. Accordingly, the predictability of stem cell mobilization associated with the use of Mozobil may result in more efficient use of a transplant center's apheresis machines and staff time. We are aware of other stem cell mobilization agents under preclinical or clinical development. The companies pursuing development include Chemokine Therapeutics Corp. and Novartis AG.

Patents, License Agreements and Trademarks

In general, we pursue a policy of obtaining patent protection both in the United States and in selected countries outside the United States for subject matter we consider patentable and important to our business. Patents owned by us that we consider important to our business include the following:

Genetic Diseases

Cerezyme is protected by U.S. Patent Nos. 5,236,838 which expires on August 17, 2010; 5,549,892 which expires on August 27, 2013; 6,451,600 which expires on September 17, 2019; and corresponding international counterparts. Myozyme is protected by U.S. Patent Nos. 6,118,045 which expires on August 18, 2018; and 7,351,410 which expires on October 29, 2020.

Cardiometabolic and Renal

Renagel and Renvela are protected by U.S. Patent Nos. 5,667,775 which expires on September 16, 2014; 5,496,545, 6,509,013, 7,014,846 and 7,459,151 which expire on August 11, 2013; and corresponding international counterparts. Renagel is also protected by U.S. Patent No. 6,733,780, which expires on October 18, 2020; and corresponding international counterparts. Renvela is also protected by U.S. Patent No. 6,858,203 which expires on September 20, 2013; and corresponding international counterparts. Hectorol is protected by U.S. Patent Nos. 6,903,083 which expires on July 18, 2021; 5,602,116 which expires on February 11, 2014; 5,869,472 which expires on February 9, 2016; 7,148,211 which expires on September 14, 2023; and corresponding international counterparts. Thyrogen is protected by U.S. Patent Nos. 5,240,832 and 5,674,711 which expire on August 31, 2010; 5,602,006 which expires on February 11, 2014; 5,658,760, which expires on August 19, 2014; and corresponding international counterparts.

Biosurgery

Synvisc is protected by U.S. Patent Nos. 5,143,724 which expires on August 8, 2011; 5,399,351 which expires on March 21, 2012; and corresponding international counterparts. Seprafilm is protected by U.S. Patent No. 5,527,893 which expires on June 18, 2013; and corresponding international counterparts.

Hematologic Oncology

Mozobil is protected by U.S. Patent Nos. 5,583,131 which expires on December 10, 2013; 6,987,102 which expires on July 22, 2023; and corresponding international counterparts.

In addition, a portion of our proprietary position is based upon patents that we have licensed from others either through collaboration or traditional license agreements. These licenses generally are worldwide, exclusive, for a fixed duration and require us to use reasonable or diligent efforts to develop and commercialize the relevant product and to pay on-going royalties on product sales. Our licensed patents that we consider important to our business include the following:

- Fabrazyme is protected by U.S. Patent No. 5,356,804, which is licensed from Mount Sinai School of Medicine of the City of New York and expires on September 27, 2015.
- Aldurazyme is protected by numerous U.S. patents licensed from BioMarin Pharmaceutical Inc. and Harbor-UCLA Research and Education Institute, and international counterparts. U.S. Patent Nos. 6,426,208, 7,041,487 and 7,354,576 expire on November 12, 2019. U.S. Patent No. 6,569,661 expires on April 23, 2020. U.S. Patent Nos. 6,585,971 and 6,858,206 expire on July 1, 2020.
- Myozyme is protected by U.S. Patent No. 7,056,712, which is licensed from Duke University and Synpac Pharmaceuticals (U.K.) Limited and expires on February 26, 2023, and international counterparts.
- Thyrogen is protected by U.S. Patent No. 5,840,566, which is licensed from Sloan-Kettering Institute for Cancer Research and expires on November 24, 2015 and by U.S. Patent No. 6,284,491, which is licensed from the National Institutes of Health and expired on January 11, 2009.
- Clolar is protected by U.S. Patent Nos. 5,384,310 and 5,661,136, which are licensed from Southern Research Institute and expire on May 23, 2009 and January 14, 2018, respectively, and international counterparts.
- Campath is protected by U.S. Patent Nos. 5,846,534 and 6,569,430, which are licensed from British Technology General and expire on December 8, 2015, and international counterparts.

Generally, patents issued in the United States are effective for:

- the longer of 17 years from the date of issue or 20 years from the earliest effective filing date of the corresponding patent application if filed prior to June 8, 1995; and
- 20 years from the earliest filing date for patent applications filed on or after June 8, 1995.

In some cases, the patent term can be extended to recapture a portion of the term lost during FDA regulatory review. The duration of foreign patents varies in accordance with local law.

We also rely on trade secrets, proprietary know-how and continuing technological innovation to develop and maintain a competitive position in our product areas. We require our employees, consultants and collaborators who have access to our proprietary information to sign confidentiality agreements.

Our patent position and proprietary technology are subject to certain risks and uncertainties. We have included information about these risks and uncertainties in Item 1A., "Risk Factors," of this report. We encourage you to read that discussion, which we are incorporating into this section by reference.

Our products and services are sold around the world under brand-name trademarks and service-marks. Trademark protection continues in some countries as long as the mark is used; in other countries, as long as it's registered. Registrations generally are for fixed, but renewable, terms. We consider our registered trademarks Genzyme®, Cerezyme®, Ceredase®, Fabrazyme®, Thyrogen®, Myozyme®, Renagel®, Renvela®, Hectorol®, Thymoglobulin®, Campath®, Clolar®, Synvisc®, Carticel®, MACI®, GlucaTex®, Sepra®, Seprafilm®, Sepragel®, Seprapack®, Sepramesh®, Sepraspray®, Hylaform®, Hylashield®, Lipobridge® Captique®, Epicel®, OSOM®, N-geneous®, Direct LDL®, GlyPro®, InSight®, AFP3®, and AFP4®, together with our trademarks, Lumizyme™, Synvisc-One™, Evoltra™, MabCampath™, Lymphoglobuline™, Mozobil™, Cholestagel™, Hylashield Nite™, SAGE™, LongSAGE™ and SPHERE™, and BioMarin/Genzyme LLC's registered trademark, Aldurazyme®, in the aggregate, to be of material importance to our business.

Government Regulation

Regulation by governmental authorities in the United States and other countries is a significant factor in the development, manufacture, commercialization, pricing and reimbursement of our products and services.

FDA Approval

Most of our products and services require approval from the FDA and corresponding agencies in other countries before they can be marketed. In the United States, we market products that the FDA classifies as either "drugs," "biologics" or "devices." The activities required before drugs or biologics may be marketed in the United States include:

- preclinical laboratory tests, *in vitro* and *in vivo* preclinical studies and formulation and stability studies;
- the submission to the FDA of an application for human clinical testing, which is known as an Investigational New Drug (IND) application;
- adequate and well controlled human clinical trials to demonstrate the safety and effectiveness of the drug or biologic;

- the submission of a New Drug Application (NDA) for a drug or a Biologics License Application (BLA) for a biologic; and
- the approval by the FDA of the NDA or BLA.

The FDA may grant accelerated approval for drugs and biologics on the basis of a surrogate endpoint reasonably likely to predict clinical benefit. In such cases, we are required to conduct post-approval clinical studies to confirm the clinical benefit of the surrogate endpoint that was the basis of the accelerated approval. These clinical studies require the collection of additional data before full approval will be given and can often be long-term commitments. Although the FDA has not historically invoked its authority to withdraw an accelerated approval, it may do so. We currently have a number of products approved under the accelerated approval mechanism.

Products that are classified as devices also require some form of FDA approval prior to marketing. Devices are classified as Class I, II or III, depending upon the information available to assure their safety and effectiveness. In general, Class I and Class II devices are devices whose safety and effectiveness can reasonably be assured through general or specific controls, respectively. Class III devices are life sustaining, life supporting, are of substantial importance in preventing impairment to health or pose an unreasonable risk of adverse effect. They are implantable devices or new devices which have been found not to be substantially equivalent to legally marketed devices. The steps required for approval of a Class III device include:

- preclinical laboratory tests and *in vitro* and *in vivo* preclinical studies;
- the submission to the FDA and approval of an Investigational Device Exemption (IDE) application to allow initiation of clinical testing;
- human clinical studies to prove safety and effectiveness of the device;
- the submission of a Pre-Marketing Approval application (PMA); and
- the approval by the FDA of the PMA.

Typically, clinical testing of devices involves initial testing to evaluate safety and feasibility and expanded trials to collect sufficient data to prove safety and effectiveness. In addition, the procedures and the facilities used to manufacture the device are subject to review and approval by the FDA.

A device (other than a Class III device) that is proven to be substantially equivalent to a device marketed prior to May 28, 1976, when government regulations for devices were first introduced, can be marketed after clearance of a 510(k) application rather than the filing of an IDE application and a PMA. The 510(k) application must contain a description of the device, its methods of manufacture and quality control procedures and the results of testing to demonstrate that the device is substantially equivalent to the device already marketed.

The time and expense required to perform the clinical testing necessary to obtain FDA approval for regulated products can frequently exceed the time and expense of the research and development initially required to create the product. Even after initial FDA approval has been obtained, we could very likely be required to conduct further studies to provide additional data on safety or efficacy or, should we desire, to gain approval for the use of a product as a treatment for additional clinical indications. In addition, use of these products during testing and after marketing approval has been obtained could reveal side effects which, if serious, could limit uses, require a Risk Evaluation & Mitigation Strategy or in the most serious cases, result in a market withdrawal of the product or expose us to product liability claims. We are also subject to monetary penalties if we do not meet the timelines agreed to with the FDA for these post-approval requirements.

Approval Outside of the United States

For marketing outside the United States, we are subject to foreign regulatory requirements governing human clinical testing and marketing approval for our products. These requirements vary by jurisdiction, differ from those in the United States and may require us to perform additional pre-clinical or clinical testing regardless of whether FDA approval has been obtained. The amount of time required to obtain necessary approvals may be longer or shorter than that required for FDA approval. In many countries outside of the United States, coverage, pricing and reimbursement approvals are also required.

Our initial focus for obtaining marketing approval outside the United States is typically the European Union. European Union regulations and directives generally classify health care products either as medicinal products, medical devices or *in vitro* diagnostics. For medicinal products, marketing approval may be sought using one of three main procedures: the centralized procedure of the EMEA, the mutual recognition procedure or the decentralized procedure.

Under the centralized procedure, which is mandatory for biotechnology derived products, applications are made to the EMEA for an authorization which is valid for the European Community. The EMEA conducts a thorough evaluation of the application, drawing from its scientific resources across Europe. If the drug product is proven to fulfill the requirements for quality, safety and efficacy, the EMEA's Scientific Committee, the CMHP, adopts a positive opinion that is transmitted to the European Commission for the marketing authorization to be granted.

Under the mutual recognition procedure, a company first obtains a marketing authorization from a single EU member state. In the decentralized procedure, the application is submitted simultaneously in selected or all member states. After a marketing authorization has been granted, a company must submit periodic safety reports to the EMEA (for the centralized procedure) or to the national health authorities (for the mutual recognition procedure). These marketing authorizations must be reviewed every five years. Since the EU does not have jurisdiction over patient reimbursement or pricing matters in its member states, it is necessary to deal with individual countries on such matters.

In July 2007, the European Commission's Regulation on Penalties entered into force. This regulation enables the European Commission to impose sanctions on companies for non-completion of post-marketing commitments. These range from a fine of 10% of global revenue to removal of the product from the market.

European Union regulations for products classified as medical devices have been implemented. Devices, such as our Sepra products, must receive marketing approval through a centralized procedure in which the device receives a CE Mark allowing distribution to all member states of the European Union. The CE Mark certification requires us to receive International Standards Organization certification for each facility involved in the manufacture or distribution of the device. This certification comes only after the development of an all inclusive quality system, which is reviewed for compliance to International Quality Standards by a licensed "Notified Body" working within the European Union. After certification is received, a product dossier is reviewed that attests to the product's compliance with European Union directive 93/42 EEC for medical devices. Only after this point is a CE Mark granted.

Other Government Regulation

Good Manufacturing Practices. The FDA, the EMEA and other regulatory agencies regulate and inspect equipment, facilities and processes used in the manufacture of pharmaceutical and biologic products prior to approving a product. If, after receiving approval from regulatory agencies, a company makes a material change in manufacturing equipment, location or process, additional regulatory review and approval may be required. All facilities and manufacturing techniques used for the manufacture of Genzyme's products must comply with applicable regulations governing the production of

pharmaceutical products known as "Good Manufacturing Practices." The FDA, the EMEA and other regulatory agencies also conduct regular, periodic visits to re-inspect equipment, facilities and processes following initial approval of a product.

In September and October 2008, FDA officials conducted a Good Manufacturing Practices, or GMP, inspection of licensed therapeutic drug products, bulk drug substances and drug components manufactured at our Allston, Massachusetts facility. We manufacture Cerezyme, Fabrazyme and Myozyme and perform fill/finish for Aldurazyme and Thyrogen at this facility. After this inspection, the FDA officials issued a list of inspection observations known as a Form FDA 483. The form detailed inspectional observations considered by the FDA to be significant deviations from GMP compliance, including observations relating to our procedures designed to prevent microbiological contamination of sterile drug products; controls for in-process monitoring during bulk drug substance manufacturing, including our controls for bioburden monitoring; and maintenance of equipment and computer systems validation. We responded to the Form FDA 483 on October 31, 2008 with a plan and timeline to address the inspectional observations and provided a progress update on February 23, 2009 to the FDA. On February 27, 2009, we received a warning letter from the FDA that requested supplemental information in order to fully evaluate the adequacy of our corrective actions with respect to nine of the FDA's sixteen observations in the Form FDA 483. We currently are reviewing the warning letter and plan to respond to the FDA in writing within fifteen business days of receipt of the letter as is required. We are committed to working cooperatively with the FDA regarding this matter. The issuance of the warning letter does not affect the continued distribution of our Genetic Diseases products currently on the market or our inventory currently on hand. We believe that the products produced at our Allston facility continue to meet the highest quality and safety standards.

Failure to correct the deviations cited in the FDA's warning letter could result in further regulatory action, including suspension of our license to manufacture products at the facility, or lead to a delay in the approval of new products. The FDA will not approve our application to market alglucosidase alfa produced at the 2000L scale at our Allston facility until the issues identified in the warning letter are resolved to the FDA's satisfaction.

Orphan Drug Act. The Orphan Drug Act provides incentives to manufacturers to develop and market drugs for rare diseases and conditions affecting fewer than 200,000 persons in the United States at the time of application for orphan drug designation. The first developer to receive FDA marketing approval for an orphan drug is entitled to a seven year exclusive marketing period in the United States for that product. However, a drug that the FDA considers to be clinically superior to, or different from, another approved orphan drug, even though for the same indication, may also obtain approval in the United States during the seven year exclusive marketing period. We believe that the commercial success of our orphan drug products depends more significantly on the associated safety and efficacy profile and on the price relative to competitive or alternative treatments and other marketing characteristics of each product than on the exclusivity afforded by the Orphan Drug Act. Additionally, these products may be protected by patents and other means.

Legislation similar to the Orphan Drug Act has been enacted in other countries outside the United States, including the European Union. The orphan legislation in the European Union is available for therapies addressing conditions that affect five or fewer out of 10,000 persons. The market exclusivity period is for ten years, although that period can be reduced to six years if, at the end of the fifth year, available evidence establishes that the product is sufficiently profitable not to justify maintenance of market exclusivity.

Regulation of Genetic Testing Services and Diagnostic Products. Our genetic testing services are subject to various federal and state laws and regulations, which among other things, require that our clinical laboratories be licensed and comply with various operational, personnel and quality requirements intended to ensure that their clinical laboratory testing services are accurate, reliable and timely. CLIA does not preempt state laws that are more stringent than federal law.

In September 2007, the FDA issued a final guidance regarding the manufacturing of Analyte Specific Reagents (ASR) for use in laboratory developed tests. The guidance clearly defined requirements for quality systems, labeling, registering and marketing of ASRs. Increased FDA enforcement regarding the manufacturing and sale of ASR reagents and increased enforcement regarding the sale of Research Use Only (RUO) and Investigational Use Only (IUO) reagents and instruments for clinical diagnostic purposes could potentially lead to significant increased costs for manufacturing, and possible supply interruptions as suppliers attempt to comply with these newly defined requirements. Collectively, these activities may impact the ability for a clinical laboratory to introduce new tests or new technologies.

With respect to our diagnostic products, the FDA has regulatory responsibility over instruments, test kits, reagents and other devices used to perform diagnostic testing by clinical laboratories. Like other medical devices, *in vitro* diagnostic (IVD) products are divided into three classes according to the level of regulatory control needed to assure safety and effectiveness. Genzyme's current IVD products are either Class I or Class II, and are either exempt from pre-market notification or require a 510(k) submission.

Clinical Trial Registries and Results Databases. Consistent with its long-standing commitment to transparency of relevant information about its products, Genzyme has exceeded previous legal requirements to register clinical trials. Since 2005, the company has posted information about ongoing and completed clinical trials on its own Web site and other widely accessible sites, including the NIH-sponsored http://www.clinicaltrials.gov.

In 2007, changes in both federal and state laws expanded the scope of trials requiring registration, increased the amount of information required to be included with the registration, and established new requirements for disclosing the results of completed trials. Although Genzyme has voluntarily provided a substantial portion of the newly required information, the recently enacted legislation (Food and Drug Administration Amendment Act of 2007, or the FDAAA of 2007) has triggered a revision of internal procedures to ensure compliance.

Specifically, the federal legislation requires disclosure of ongoing applicable clinical trials (including, for the first time, specified device trials as well as drug trials) in http://www.clinicaltrials.gov within 21 days of first patient enrolled and of all pediatric post market device surveillance studies. In addition, beginning September 2008, the existing clinical trials registry was expanded to include a clinical trials results database. Full expansion is to be completed by September 2010. Results of completed applicable clinical trials must be disclosed in the results database within 1 year of trial completion, unless an extension is granted for pending regulatory action. The company will continue to reassess its policies to seek to ensure that all applicable trials are registered and results disclosed. Failure to meet the requirements could result in penalties including civil monetary penalties.

Pediatric Regulation. The FDAAA of 2007 reauthorized the Best Pharmaceuticals for Children Act (BPCA) and the Pediatric Research Equity Act (PREA). BPCA continues to offer manufacturers a 6-month market exclusivity incentive to conduct pediatric clinical studies at the request of the FDA. PREA requires manufacturers to file pediatric assessments, which may include actual pediatric data, a deferral of the pediatric obligation, or a waiver of the pediatric requirement, at the time of filing for all new drug and biologic submissions, as well as for certain supplemental applications. Pursuant to PREA, the FDA has the authority to require sponsors to conduct pediatric research as a contingency of the approval of an application or supplement or as a post-approval commitment. Under both BPCA and PREA, the FDA has the authority to mandate a pediatric label change subsequent to the filing of pediatric clinical data as well as publicly disseminate FDA reviews of pediatric clinical study data. The FDA's increased oversight and authority regarding pediatric studies and subsequent labeling changes may result in regulatory delays and additional development costs for Genzyme.

In 2007, the EU Regulation on Medicines for Pediatric Use became effective. This regulation introduced new obligations on pharmaceutical companies to conduct research on their medicines in children, and subject to various conditions, offers the possibility of incentives for doing so, including exclusivity extensions.

Other Laws and Regulations. Our operations are or may be subject to various federal, state and local laws, regulations and recommendations relating to the marketing of products and relationships with treating physicians, data protection, safe working conditions, laboratory and manufacturing practices, the export of products to certain countries, and the purchase, storage, movement, use and disposal of hazardous or potentially hazardous substances used in connection with our research work and manufacturing operations, including radioactive compounds and infectious disease agents. Although we believe that our safety procedures comply with the standards prescribed by federal, state and local regulations, the risk of contamination, injury or other accidental harm cannot be eliminated completely. In the event of an accident, we could be held liable for any damages that result and any liabilities could exceed our resources.

Sales and Marketing

We are subject to various federal and state laws pertaining to health care "fraud and abuse," including anti-kickback and false claims statutes. Anti-kickback laws make it illegal for a prescription drug manufacturer to solicit, offer, receive, or pay any remuneration in exchange for, or to induce, the referral of business, including the purchase or prescription of a particular drug. The federal government has published regulations that identify "safe harbors" or exemptions for certain payment arrangements that do not violate the federal anti-kickback statute. Genzyme seeks to comply with the safe harbors where possible. Due to the breadth of the statutory provisions, and the lack of guidance in the form of regulations or court decisions addressing some industry activities, it is possible that our practices might be challenged under anti-kickback or related laws. False claims laws prohibit anyone from knowingly and willingly presenting, or causing to be presented for payment to third-party payors, including Medicare and Medicaid, claims for reimbursed drugs or services that are false or fraudulent, claims for items or services not provided as claimed, or claims for medically unnecessary items or services. Promotion of drugs for uses outside their labeled indications, so called "off-label" promotion, recently has led to several financially significant settlement agreements by companies under the False Claims Act.

Our activities relating to the sale and marketing of, and price reporting for, our products are subject to scrutiny under these fraud and abuse laws. Violations of these laws may result in criminal and/or civil sanctions, including fines and civil monetary penalties, as well as possible exclusion from federal health care programs, including Medicare and Medicaid. Federal and state authorities are paying increased attention to the pharmaceutical and biotechnology industries in enforcement of these laws, and we have been named in several legal proceedings alleging violations. We are subject to similar fraud and abuse laws outside of the United States.

Legislation and regulations have been enacted by, or are pending in, various states to regulate sales and marketing practices of pharmaceutical, biotechnology and medical device manufacturers. These initiatives generally involve limitations or prohibitions on, and reporting to state agencies of, financial interactions between manufacturers and health care practitioners. Similar initiatives have been introduced in Congress. We have dedicated resources that monitor these developments and work to comply appropriately with them. We are subject to similar regulations outside of the United States.

Laws and regulations have been promulgated at federal and state levels in the United States and in foreign countries intended to combat counterfeit drug products or, in some foreign jurisdictions, to facilitate foreign country-specific pharmaceutical reimbursement programs. We comply with those federal, state and foreign "pedigree" or similar laws or rules to the extent currently in effect. We have

allocated resources to develop interoperable electronic systems to comply with forthcoming product serialization and track and trace requirements.

Product Pricing

We participate in the Medicaid rebate program. Under the Medicaid rebate program, we pay a quarterly rebate for each unit of drug product that is reimbursed by Medicaid. The amount of the rebate for each product is set by law as a minimum 15.1% of the average manufacturer price (AMP) of that product, or if it is greater, the difference between AMP and the best price (BP) available from Genzyme to any customer. The rebate amount also includes an inflation adjustment if AMP increases greater than inflation. The inflation adjustment can cause the rebate amount to be significantly higher than the minimum 15.1% rebate mentioned above, particularly following our periodic price increases. The rebate amount is recomputed each quarter based on our reports of our current AMP and best price for each of our products. In addition, we are required to report AMP on a monthly basis. Computations are based on complex rules issued by the Medicaid program informally in the past and formalized in 2007 by regulations that went into effect October 2007. We have policies and procedures in place that we update as Medicaid guidance changes and we have updated our policies and procedures to be consistent with the 2007 regulations. We follow those policies and procedures when calculating our AMPs and BPs. The terms of our participation in the Medicaid program impose an obligation to correct the prices reported in previous months and quarters, if necessary. Any such corrections could result in an overage or underage in our rebate liability for past quarters, depending on the nature of the correction. In addition to retroactive rebates (and interest, if any), if we were found to have knowingly submitted false information to the government, in addition to other penalties available to the government, the statute provides for civil monetary penalties for each claim containing false information. In addition, the minimum discount of 15.1% could be increased by Congress in the future, thereby increasing our discounts to the Medicaid program and to other entities that receive discounts comparable to the Medicaid rebate.

Participation in the Medicaid rebate program has included extending comparable discounts under the Public Health Service (PHS) pharmaceutical pricing program. The PHS pricing program extends discounts to community health clinics and other entities that receive health services grants from the PHS, as well as hospitals that serve a disproportionate share of poor patients. Failure to extend mandated discounted pricing to eligible providers would expose us to retroactive pricing corrections and penalties.

Medicare Part B covers drugs that are administered by physicians, including our injected and infused drugs. Currently, Medicare reimburses physicians who purchase our Part B covered drugs an amount equal to the drug's average sales price (ASP) plus 6% and hospitals that use our Part B drugs in the outpatient setting an amount equal to ASP+4%. Medicare has issued regulations and other guidance on how manufacturers are to calculate ASP. We have policies and procedures in place that are consistent with the Medicare rules and we calculate ASPs every quarter in accordance with those policies and procedures. Medicare uses our calculated ASPs to set reimbursement. If we were to miscalculate ASP, then Medicare reimbursement also would be incorrect and we would be exposed to potential penalties such as those described in the Medicaid rebate program description above.

Part D of the Medicare Prescription Drug, Improvement and Modernization Act of 2003, or Medicare Part D, provides coverage for self-administered drugs such as pills, tablets and creams, that do not need to be injected or infused by a physician. These include our products Renvela, Renagel and oral Hectorol. However, Medicare Part D is administered by private vendors under contract with the U.S. government and each vendor establishes its own Medicare Part D formulary for prescription drug coverage and pricing, which the vendor may modify from time-to-time. Renagel/Renvela and Hectorol currently are well-positioned on the majority of formularies of nation-wide prescription drug plans participating in the Medicare Part D program as well as many of the large regional plans. The U.S. Congress could significantly change the Medicare Part D program in the future, including requiring the federal government to negotiate discounts for our drugs or matching mandatory discounts to those required in other federal programs.

We also are required to offer discounted pricing to federal agencies via the Federal Supply Schedule (FSS). FSS pricing is negotiated periodically with the Department of Veterans Affairs (VA). Although FSS pricing is negotiated, it is intended to not exceed the price that we charge our most-favored non-federal customer for the drug. The minimum discount is statutorily set at approximately 24%. However, an inflation penalty applies and can cause the discount to increase significantly, particularly following our periodic price increases. The VA has issued complex regulations and other guidance on how manufacturers are to calculate annual increases in the FSS prices. We have policies and procedures in place that are consistent with these complex VA rules and we calculate FSS prices every quarter in accordance with those policies and procedures. If we were to miscalculate FSS prices, then federal agencies would pay incorrect amounts for our drugs and we would be exposed to potential penalties, including ineligibility of our drugs for reimbursement by federal agencies, state Medicaid programs and the PHS, and possibly false claims liability.

In December 2007, Congress passed legislation extending FSS pricing to the TriCare retail program, which provides reimbursement for military personnel and their dependents when they purchase drugs from retail pharmacies instead of at military pharmacies. Previously, The Department of Defense was eligible for FSS pricing only on drugs dispensed by their military pharmacies and not on drugs dispensed by retail pharmacies. FSS pricing for the TriCare retail program has not yet been implemented pending publication of final regulations by the Federal government. When it is implemented, it is expected to affect only our oral products because our injectable products would rarely, if ever, be purchased by patients at a retail pharmacy.

Outside the United States our products are paid for by a variety of payers, with governments being the primary source of payment. In many countries the government closely regulates drug pricing and reimbursement and often has significant discretion in determining whether a product will be reimbursed at all and, if it is, how much will be paid. Further, many countries reference prices in other countries and use those reference prices to set their own price. This international patchwork of price regulation has led to different prices across countries and some cross-border trade in our products from markets with lower prices.

Employees

As of December 31, 2008, we, together with all of our consolidated subsidiaries, had approximately 11,000 employees worldwide.

Research and Development Costs

Our research and development costs were $1.3 billion in 2008, $737.7 million in 2007 and $650.0 million in 2006. These costs consist of the cost of our own independent research and development efforts and the costs associated with collaborative research and development and in-licensing arrangements. Research and development costs, including upfront fees and milestones paid

to collaboration partners, are expensed as incurred if the underlying products have not received regulatory approval and have no future alternative use.

Financial Information about Segments and Geographic Areas

We have provided the information required by Items 101(b) and 101(d) of Regulation S-K under the heading "Management's Discussion and Analysis of Genzyme Corporation and Subsidiaries' Financial Condition and Results of Operations" and in Note Q., "Segment Information," to our Consolidated Financial Statements set forth in Exhibit 13 to this Annual Report on Form 10-K. We are incorporating that information into this section by reference.

Available Information

You may obtain a free copy of our annual report on Form 10-K, our quarterly reports on Form 10-Q and current reports on Form 8-K, and amendments to those reports, as soon as reasonably practicable after we file them with the SEC, on our website at http://www.genzyme.com or by contacting our Investor Relations department at 1-617-252-7570. The reference to our website is not intended to incorporate information on our website into this document by reference.

ITEM 1A. RISK FACTORS

We incorporate our disclosure related to risk factors into this section by reference from Exhibit 13 to this Annual Report on Form 10-K under the heading "Management's Discussion and Analysis of Genzyme Corporation and Subsidiaries' Financial Condition and Results of Operations—Risk Factors."

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our operations are conducted in manufacturing, warehousing, development/clinical plant, clinical laboratories, and research and office facilities that are located principally in: the United States; the United Kingdom; the Republic of Ireland; The Netherlands; Belgium; France; Canada; Switzerland; Germany; and Australia.

We lease all of our facilities except for certain facilities in:

- Geel, Belgium (land subject to 99 year leasehold);
- Haverhill and Maidstone, England;
- San Diego, California; Allston (land subject to 65 year leasehold), Framingham and Waltham, Massachusetts; Ridgefield, New Jersey; and Santa Fe, New Mexico in the United States; and
- Waterford, Ireland (land subject to 999 year leasehold).

Our principal manufacturing facilities are used for the large-scale production of therapeutic proteins and enzymes, including Cerezyme, Fabrazyme, Myozyme and Thyrogen; renal products, including Renagel/Renvela and Hectorol; immunosuppressive agents, including Thymoglobulin; biomaterials, including Synvisc/Synvisc-One and the Sepra family of anti-adhesion products; bulk hyaluronic acid; human-cell processing services, including Carticel, MACI, and Epicel; and genetic testing services. The facilities also are used for the receipt of contract manufactured products and materials for Hectorol, Renagel, Campath, Clolar, Cholestagel and Mozobil. We are also producing late-stage clinical materials, using gene therapy, at our gene therapy operations facility in San Diego,

California. We believe that we have, or are in the process of developing, acquiring or contracting for, adequate manufacturing capacity to support our requirements for the next several years.

Our administrative activities are concentrated at facilities we have leased in Cambridge and Framingham, Massachusetts and San Antonio, Texas in the United States; Naarden, The Netherlands, Tokyo, Japan, and Rio de Janeiro, Brazil. Our sales and marketing activities are principally located in Cambridge, Massachusetts and in sales offices located in major cities throughout the world. We conduct our product research and development activities primarily at our laboratory facilities in Framingham and Waltham, Massachusetts; San Antonio, Texas; and San Diego, California in the United States, and at our Cambridge, United Kingdom facility. Leases for our facilities contain typical commercial lease provisions, including renewal options, rent escalators and tenant responsibility for operating expenses.

Genetic Diseases

We manufacture Cerezyme, Fabrazyme and Myozyme at our multi-product manufacturing facility in Allston, Massachusetts. This facility, which we own and which contains extensive sterile filling capacity, is built on land that we hold under a 65-year lease, which expires in May 2057. We manufacture Fabrazyme and Myozyme in our small-scale manufacturing facility in Framingham, Massachusetts and final drug product at our Allston facility. In addition, we fill Aldurazyme at our Allston facility. We are in the process of expanding this facility to house power generation, laboratory and administrative space to support the utilization of the facility. In 2005, we commenced the design and build-out of perfusion capacity at our Geel, Belgium facility to provide back-up and expansion to our Allston bulk capacity and purification systems. In February 2009, we received European Commission approval to produce Myozyme at the 4000L scale in Geel.

At our Waterford, Ireland facility, we have installed new fill-finish capabilities for therapeutic proteins and have approval to fill-finish Thymoglobulin, Cerezyme and Myozyme at this facility. We are expanding capacity at our Waterford facility to meet projected demand for these products.

Cardiometabolic and Renal

We manufacture the majority of our supply requirements for sevelamer hydrochloride, the active ingredient in Renagel, at our facilities in Haverhill, England. We also operate a manufacturing facility in Waterford, Ireland for use in manufacturing the tablet formulation of Renagel. All of our Renagel manufacturing facilities are operational, and have received all European and U.S. approvals material to such operations. A second tablet formulation facility is completing validation runs in Waterford to provide additional capacity and security of supply, which is expected to come on line in the second quarter of 2009. We have converted one of the bulk Renagel plants in Haverhill, England to enable it to also produce bulk Renvela, which is anticipated to be approved in 2009. Renvela tableting operations are conducted in our Waterford, Ireland facility.

We contract out the manufacturing and fill-finish work for the capsule formulation of Hectorol. In 2008, we obtained regulatory approval of our own manufacturing capacity for filling Hectorol in vials in Ridgefield, New Jersey.

We manufacture Thyrogen in our small-scale manufacturing facility in Framingham, Massachusetts and final drug product at our Allston facility.

Biosurgery

We produce Synvisc and other hyaluronan-based products in our manufacturing facility in Ridgefield, New Jersey. We produce bulk hyaluronic acid and the Sepra family of products at commercial scale in our manufacturing facility in Framingham, Massachusetts.

Hematologic Oncology

We contract out the manufacturing and fill-finish work for Campath and Clolar. We are establishing manufacturing capability for Campath at our facilities in Geel, Belgium and expect approval in 2010.

ITEM 3. LEGAL PROCEEDINGS

We periodically become subject to legal proceedings and claims arising in connection with our business. Although we cannot predict the outcome of these proceedings and claims, we do not believe the ultimate resolution of any of these existing matters would have a material adverse effect on our consolidated financial position or results of operations.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

None.

Executive Officers of the Registrant

The following is list of our executive officers, their ages as of February 1, 2009 and their positions with Genzyme:

Name	Age	Title
Henri A. Termeer	62	Chairman of the Board of Directors; President and Chief Executive Officer
Mark R. Bamforth	46	Senior Vice President, Corporate Operations and Pharmaceuticals
Earl M. Collier, Jr.	61	Executive Vice President
Zoltan A. Csimma	67	Senior Vice President; Chief Human Resources Officer
Thomas J. DesRosier	54	Senior Vice President; General Counsel; Chief Legal Officer
James A. Geraghty	54	Senior Vice President
David P. Meeker, M.D.	54	Executive Vice President, Genetic Diseases, Biosurgery & Transplant
Richard A. Moscicki, M.D.	56	Senior Vice President, Biomedical & Regulatory Affairs; Chief Medical Officer
Alan E. Smith, Ph.D.	63	Senior Vice President, Research; Chief Scientific Officer
Sandford D. Smith	61	Executive Vice President; President, International Group
Peter Wirth	58	Executive Vice President, Legal and Corporate Development; Secretary
Michael S. Wyzga	53	Executive Vice President, Finance; Chief Financial Officer

Mr. Termeer has served as our President and a Director since October 1983, as Chief Executive Officer since December 1985 and as Chairman of the Board of Directors since May 1988. For ten years prior to joining Genzyme, Mr. Termeer worked for Baxter International Laboratories, Inc., a manufacturer of human health care products. Mr. Termeer is a director of ABIOMED, Inc. and Deputy Chairman of the Federal Reserve Bank of Boston.

Mr. Bamforth has served as Senior Vice President, Corporate Operations and Pharmaceuticals since May 2004. He joined Genzyme in 1988 as Vice President and General Manager of Genzyme's

operations in the United Kingdom. From May 2001 until May 2004, Mr. Bamforth served as Senior Vice President, Corporate Operations. Before joining Genzyme, Mr. Bamforth worked as a drilling engineer in the North Sea offshore oil industry and then as a chemical engineer in the whisky industry in Scotland.

Mr. Collier has served as Executive Vice President since July 1997. He joined Genzyme in January 1997 as Senior Vice President, Health Systems, and served as Executive Vice President, Surgical Products and Health Systems from July 1997 until June 1999. He served as President of our former Genzyme Surgical Products division from June 1999 until December 2000. Mr. Collier was also responsible for our former Genzyme Tissue Repair division from December 1999 to December 2000. From December 2000 until August 2003, Mr. Collier served as President of our Genzyme Biosurgery business unit. Prior to joining us, Mr. Collier was President of Vitas HealthCare Corporation (formerly Hospice Care Incorporated), a provider of health care services, from October 1991 until August 1995. Prior to that, Mr. Collier was a partner in the Washington, D.C. law firm of Hogan & Hartson, which he joined in 1981. He also serves on the board of deCODE genetics, a biotechnology company that applies gene discovery to the development of drugs and diagnostics for common diseases.

Mr. Csimma has held the title Senior Vice President and Chief Human Resources Officer since March 2006. He joined us in July 2000 as Senior Vice President, Human Resources. Prior to joining Genzyme, he served as Vice President, Human Resources of Wyeth Ayerst Research, a pharmaceutical research organization, from August 1998 to July 2000. During that time, Mr. Csimma also served as Site Head, Genetics Institute, for Wyeth Ayerst. From May 1988 to August 1998, he served as Vice President, Human Resources and Operations of Genetics Institute, Inc., a biotechnology company, which was integrated into Wyeth Ayerst in March 1998.

Mr. DesRosier has served as Senior Vice President and General Counsel since October 2000 and as Chief Legal Officer since May 2008. Mr. DesRosier joined Genzyme in 1999 as Senior Vice President and Chief Intellectual Property Counsel. Before he joined Genzyme, Mr. DesRosier was assistant general counsel for patents at American Home Products Corp. Mr. DesRosier has also served as Vice President and Chief Patent Counsel for Genetics Institute Inc. and held several intellectual property positions at E.I. DuPont de Nemours and Company and New England Nuclear Corp.

Mr. Geraghty has served as a Senior Vice President of Genzyme since May 2003 and, prior to that, as Vice President since May 2001. He was President of Genzyme Europe from 1998 to 2002 and served as General Manager of Genzyme's cardiovascular business from 2004 to 2008. He currently oversees Genzyme's strategic initiatives in emerging markets and global health. He serves as a Director of GTC Biotherapeutics (formerly Genzyme Transgenics Corporation) where he was Chairman from 1998 to 2001, and President and C.E.O. from its founding in 1993 until 1997. Prior to joining Genzyme, Mr. Geraghty was Vice President of Marketing and Strategic Planning for Baxter/Caremark International. He has also worked as a consultant on international health care strategy at Bain and Company.

Dr. Meeker has served as Executive Vice President since May 2008, with responsibility for our Genetic Diseases, Biosurgery and Transplant businesses. From March 2003 until May 2008, he served as Senior Vice President and President, LSD Therapeutics. Dr. Meeker joined Genzyme in 1994 and served as Vice President, Medical Affairs from October 1996 until June 1998; as Senior Vice President Medical Affairs from June 1998 through May 2000; and as Senior Vice President Genzyme Europe from May 2000 until March 2003. Prior to joining Genzyme, Dr. Meeker was director of the Pulmonary Critical Care Fellowship at the Cleveland Clinic Foundation. He was also an assistant professor of medicine at Ohio State University.

Dr. Moscicki has served as Senior Vice President, Biomedical & Regulatory Affairs since May 2008 and Chief Medical Officer since September 1996. From September 1996 until May 2008, he served as

Senior Vice President, Clinical, Medical and Regulatory Affairs. Dr. Moscicki joined us in March 1992 as Medical Director, became Vice President, Medical Affairs in early 1993 and served as Vice President, Clinical, Medical and Regulatory Affairs from December 1993 until September 1996. Since 1979, he has also been a physician staff member at the Massachusetts General Hospital and a faculty member at the Harvard Medical School.

Dr. Alan Smith joined us in August 1989 as Senior Vice President, Research, and became Chief Scientific Officer in September 1996. Prior to joining Genzyme, he served as Vice President—Scientific Director of Integrated Genetics, Inc., from November 1984 until its acquisition by us in August 1989. From October 1980 to October 1984, Dr. Smith was head of the Biochemistry Division of the National Institute for Medical Research, Mill Hill, London, England and from 1972 to October 1980, he was a member of the scientific staff at the Imperial Cancer Research Fund in London, England.

Mr. Sandford Smith has held the title of Executive Vice President since June 2006, Senior Vice President since January 2003 and President of our International Group since January 2000, with responsibility for the commercial activities for our products outside of the United States. He joined us in April 1996 and served as Vice President and General Manager of our International Group and President of our Therapeutics business. Prior to joining Genzyme, Mr. Smith served as President and Chief Executive Officer of Repligen Corporation. Before joining Repligen Corporation, Mr. Smith also served as Vice President of Business Development and Strategic Planning for the Pharmaceutical Group of Bristol-Myers Squibb Company.

Mr. Wirth joined us in January 1996 and has served as Executive Vice President since September 1996 with responsibility for our corporate development and legal activities. From September 1996 until May 2008, he also served as our Chief Legal Officer. From 2001 through October 2005, Mr. Wirth had responsibility for our drug discovery and development business. In addition, from September 1996 until June 2003, Mr. Wirth was responsible for our Oncology business. Prior to joining Genzyme, Mr. Wirth was a partner at Palmer and Dodge, a Boston law firm, where he was head of the firm's technology group.

Mr. Wyzga has served as Executive Vice President, Finance since May 2003 and as Chief Financial Officer since July 1999. He joined us in February 1998 as Vice President and Corporate Controller and served as Senior Vice President, Corporate Controller from January 1999 until July 1999. He served as Senior Vice President, Finance from July 1999 until May 2003 and as Chief Accounting Officer from January 1999 until November 2008. From February 1997 to February 1998, Mr. Wyzga served as Chief Financial Officer of Sovereign Hill Software, Inc., a software company, and from 1991 to 1997 held various senior management positions with CACHELINK Corporation and Lotus Development Corporation. Mr. Wyzga is also a director of Altus Pharmaceuticals Inc., a developer of protein therapeutics.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common stock is traded on The Nasdaq Global Select Market ("NASDAQ®") system under the symbol "GENZ".

As of February 26, 2009, there were 3,344 stockholders of record of our common stock.

The following table sets forth, for the periods indicated, the high and low sale price of our common stock as reported by NASDAQ.

	High	Low
2008:		
First Quarter	$82.08	$67.38
Second Quarter	76.76	65.21
Third Quarter	83.97	67.00
Fourth Quarter	81.16	57.61
2007:		
First Quarter	$68.77	$59.07
Second Quarter	67.89	59.79
Third Quarter	66.00	58.71
Fourth Quarter	76.90	62.30

We have never paid any cash dividends on any series of our common stock and we do not anticipate paying cash dividends in the foreseeable future.

Issuer Purchases of Equity Securities

Stock Repurchase Program

In May 2007, our board of directors authorized a stock repurchase program to repurchase up to an aggregate maximum amount of $1.5 billion or 20,000,000 shares of our outstanding common stock over a three year period beginning with the commencement of the program. The program commenced in June 2007. The repurchases are being made from time to time and can be effectuated through open market purchases, privately negotiated transactions, transactions structured through investment banking institutions, or by other means, subject to management's discretion and as permitted by securities laws and other legal requirements. The manner of the purchase, the amount that we spend and the number of shares we ultimately purchase will vary based on a range of factors, including share price. The program does not obligate us to acquire any particular amount of common stock and the program may be suspended at any time at our discretion.

Since June 2007, when we first began repurchasing shares of our common stock under this program, we have repurchased a cumulative total of 5,500,000 shares of our common stock at an average price of $68.09 per share for a total of $374.6 million in cash, including fees. We recorded the repurchases in our consolidated balance sheets as a reduction to our common stock account for the par value of the repurchased shares and as a reduction to our additional paid-in capital account. During the fourth quarter of 2008, we did not repurchase any common stock that was part of this program. The approximate dollar value of shares that may yet be purchased under this program is $1.1 billion.

ITEM 6. SELECTED FINANCIAL DATA

We incorporate our Selected Financial Data into this section by reference from Exhibit 13 to this Annual Report on Form 10-K under the heading "Genzyme Corporation and Subsidiaries—Consolidated Selected Financial Data."

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

We incorporate our Management's Discussion and Analysis of Financial Condition and Results of Operations into this section by reference from Exhibit 13 to this Annual Report on Form 10-K under the heading "Management's Discussion and Analysis of Genzyme Corporation and Subsidiaries' Financial Condition and Results of Operations."

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We incorporate our disclosure related to market risk into this section by reference from Exhibit 13 to this Annual Report on Form 10-K under the headings "Management's Discussion and Analysis of Genzyme Corporation and Subsidiaries' Financial Condition and Results of Operations—Market Risk," "—Equity Price Risk," "—Interest Rate Risk," and "—Foreign Exchange Risk."

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

We incorporate the financial statements filed as part of this Annual Report on Form 10-K into this section by reference from the Genzyme Corporation and Subsidiaries Consolidated Financial Statements and notes thereto included in Exhibit 13 to this Annual Report on Form 10-K.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As of December 31, 2008, we evaluated, with the participation of our Chief Executive Officer and Chief Financial Officer, the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")). Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of December 31, 2008.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over our financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act as the process designed by, or under the supervision of, our Chief Executive Officer and Chief Financial Officer, and effected by our board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of our financial statements for external purposes in accordance with generally accepted accounting principles, and includes those policies and procedures that:

(1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of assets;

(2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures are being made only in accordance with the authorizations of management and directors; and

(3) provide reasonable assurance regarding the prevention or timely detection of unauthorized acquisition, use or disposition of assets that could have a material effect on our financial statements.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework provided in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2008.

The effectiveness of our internal controls over financial reporting as of December 31, 2008 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report set forth under the heading "Report of Independent Registered Public Accounting Firm," which is included in Exhibit 13 to this Annual Report on Form 10-K.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2008 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

We have adopted a Corporate Code of Conduct, which applies to our directors and all of our employees, including our principal executive officer, principal financial officer, principal accounting officer and controller. A copy of our Code of Conduct is posted on our website, www.genzyme.com, under the "Corporate Governance—Our Commitment" section of the site. We intend to make all required disclosures concerning amendments to, or waivers from, this code in the Corporate Governance section of our website. Information contained on our website is not part of this document or the documents incorporated by reference into this document.

Certain information regarding our executive officers is set forth at the end of Part I of this Annual Report on Form 10-K under the heading, "Executive Officers of the Registrant." The other information required by this item is incorporated by reference from the sections entitled "Election of Directors," "Board Meetings and Committees" and "Section 16(a) Beneficial Ownership Reporting Compliance" in the Proxy Statement for our 2009 Annual Meeting of Shareholders.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item is incorporated by reference from the sections entitled "Director Compensation," "Compensation Discussion and Analysis," "Summary Compensation Table," "Grants of Plan-Based Awards," "Outstanding Equity Awards at Fiscal Year-End," "Option Exercises and Stock Vested," "Potential Payments Upon Termination or Change in Control," "Board Meetings and Committees—Compensation Committee," and "Board Meetings and Committees—Compensation Committee Report" in the Proxy Statement for our 2009 Annual Meeting of Shareholders.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this item is incorporated by reference from the sections entitled "Stock Ownership" and "Equity Plans" in the Proxy Statement for our 2009 Annual Meeting of Shareholders.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this item is incorporated by reference from the sections entitled "Certain Relationships and Related Persons Transactions" and "Board Meetings and Committees" in the Proxy Statement for our 2009 Annual Meeting of Shareholders.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this item is incorporated by reference from the section entitled "Independent Auditors" in the Proxy Statement for our 2009 Annual Meeting of Shareholders.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a)(1). FINANCIAL STATEMENTS

We are incorporating the following financial statements (and related notes) of Genzyme Corporation and Subsidiaries into this section by reference from Exhibit 13 to this Annual Report on Form 10-K:

* References are to page numbers in Exhibit 13 to this Annual Report on Form 10-K.

(a)(2). FINANCIAL STATEMENT SCHEDULES

The schedules listed below for Genzyme Corporation and Subsidiaries are filed as part of Exhibit 13 to this Annual Report on Form 10-K and are incorporated into this section by reference:

* References are to page numbers in Exhibit 13 to this Annual Report on Form 10-K.

All other schedules are omitted as the information required is inapplicable or the information is presented in the Genzyme Corporation and Subsidiaries' Consolidated Financial Statements or notes thereto.

(a)(3). EXHIBITS

The exhibits are listed below under Part IV, Item 15(b) of this Annual Report on Form 10-K.

(b). EXHIBITS

All other schedules are omitted as the information required is inapplicable or the information is presented in the Genzyme Corporation and Subsidiaries' Consolidated Financial Statements or notes thereto. The exhibits are listed below under Part IV, Item 15(b) of this Annual Report on Form 10-K.

EXHIBIT NO.	DESCRIPTION
*3.1	Restated Articles of Organization of Genzyme, as amended. Filed as Exhibit 3.1 to Genzyme's Form 10-Q for the quarter ended June 30, 2006.
*3.2	By-laws of Genzyme, as amended. Filed as Exhibit 3.1 to Genzyme's Form 8-K filed May 25, 2007.

EXHIBIT NO.	DESCRIPTION
*4.1	Fourth Amended and Restated Renewed Rights Agreement dated May 28, 2004 between Genzyme and American Stock Transfer & Trust Company, as Rights Agent. Filed as Exhibit 4.1 to Genzyme's Registration Statement on Form 8-A/A filed on May 28, 2004.
*4.2	Registration Rights Agreement, dated December 9, 2003, between Genzyme and UBS Securities LLC on behalf of itself and several other Initial Purchasers. Filed as Exhibit 10.1 to Genzyme's Form 8-K filed December 10, 2003.
*10.1	Lease, dated April 30, 1990, for 64 Sidney Street, Cambridge, Massachusetts between BioSurface Technology, Inc. and Forest City 64 Sidney Street, Inc. Filed as Exhibit 10.22 to BioSurface's Registration Statement on Form S-1 (File No. 33-55874).
*10.1.1	Amendment to Lease, dated September 11, 1995, to the Lease Agreement dated April 30, 1990 by and between Forest City 64 Sidney Street, Inc. and Genzyme. Filed as Exhibit 10.1.1 to Genzyme's Form 10-K for 2003.
*10.1.2	Second Amendment to Lease, dated March 1, 1996, to the Lease Agreement dated April 30, 1990 by and between Forest City 64 Sidney Street, Inc. and Genzyme. Filed as Exhibit 10.1.2 to Genzyme's Form 10-K for 2003.
*10.1.3	Letter Amendment, dated December 30, 1999, to the Lease Agreement dated April 30, 1990, by and between Forest City 64 Sidney Street, Inc. and Genzyme. Filed as Exhibit 10.1.3 to Genzyme's Form 10-K for 2003.
*10.1.4	Fourth Amendment to Lease, dated March 23, 2001, to the Lease Agreement dated April 30, 1990, by and between Forest City 64 Sidney Street, Inc. and Genzyme. Filed as Exhibit 10.1.4 to Genzyme's Form 10-K for 2003.
*10.1.5	Lease Agreement dated November 30, 2005, by and between Forest City 64 Sidney Street, Inc. and Genzyme. Filed as Exhibit 10.1.5 to Genzyme's Form 10-K for 2006.
*10.2	Lease, dated June 1, 1992, for land at Allston Landing, Allston, Massachusetts, between Allston Landing Limited Partnership and the Massachusetts Turnpike Authority. Filed as Exhibit 10.9 to Genzyme's Form 10-K for 1993.
*10.2.1	First Amendment to Lease, dated July 26, 1995, to Lease dated June 1, 1992, between Allston Landing Limited Partnership and the Massachusetts Turnpike Authority. Filed as Exhibit 10.1 to Genzyme's Form 10-Q for the quarter ended June 30, 2005.
*10.2.2	Second Amendment to Lease, dated December 22, 1997, to Lease dated June 1, 1992, between Allston Landing Limited Partnership and the Massachusetts Turnpike Authority. Filed as Exhibit 10.2 to Genzyme's Form 10-Q for the quarter ended June 30, 2005.
*10.3	Commercial Lease, dated December 24, 1998, by and between Aventis Pasteur SA and Imtix-SangStat S.A.S. for Building C5 located at Marcy L'Etoile, Lyon, France. Filed as Exhibit 10.4 to Genzyme's Form 10-K for 2003.
*10.3.1	Amendment to Commercial Lease, dated September 30, 2000, to the Lease dated December 24, 1998, by and between Aventis Pasteur SA and Imtix-SangStat S.A.S. Filed as Exhibit 10.4.1 to Genzyme's Form 10-K for 2003.
*10.4	Lease, dated August 28, 2000, for Building D, Cambridge Research Park, Cambridge, Massachusetts, between Genzyme and Kendall Square LLC. Filed as Exhibit 10.4 to Genzyme's Form 10-K for 2005.
*10.4.1	First Amendment to Lease, dated August 1, 2003, to the Lease dated August 28, 2000, by and between Genzyme and Kendall Square LLC. Filed as Exhibit 10.5.1 to Genzyme's Form 10-K for 2004.
*10.5	Underlease of 50 Gibson Drive, Kings Hill Business Park, West Malling, Kent, U.K., dated January 19, 2001, by and among Genzyme Limited, Liberty Property Limited Partnership and Kings Hill Estate Management Company Limited. Filed as Exhibit 10.1 to Genzyme's Form 10-Q for the quarter ended September 30, 2005.

EXHIBIT NO.	DESCRIPTION
*10.5.1	Deed of Variation of Underlease dated January 19, 2001, and Agreement for Lease, each dated August 22, 2005, by and between Genzyme Limited and Kent City Council (successors to Liberty Property Limited Partnership). Filed as Exhibit 10.2 to Genzyme's Form 10-Q for the quarter ended September 30, 2005.
*10.6	Lease, dated September 3, 1990, for the land located at the Industrial Development Authority Industrial Park, County Waterford, Ireland (comprised in folio 4917 & 324IF County Waterford), by and between the Industrial Development Authority and Bausch & Lomb Ireland. Filed as Exhibit 10.2 to Genzyme's Form 10-Q for the quarter ended September 30, 2001.
*10.7	Contract for Sale, dated June 25, 2001, for the premises located at the Industrial Development Authority Industrial Park, County Waterford, Ireland, (comprised in folio 4141L County Waterford) by and between Luxottica Ireland Limited and Genzyme Ireland Limited (f/k/a Gosfend Limited). Filed as Exhibit 10.1 to Genzyme's Form 10-Q for the quarter ended September 30, 2001.
*10.8	Deed of Transfer, dated July 2, 2001, between Luxottica Ireland Limited and Genzyme Ireland Limited, related to the Lease dated September 3, 1990 for the premises located at the Industrial Development Authority Industrial Park, County Waterford, Ireland (comprised in folio 4141L County Waterford). Filed as Exhibit 10.3 to Genzyme's Form 10-Q for the quarter ended September 30, 2001.
*10.9	Contract for Sale, dated August 2, 2001, for the land located at the Industrial Development Authority Industrial Park, County Waterford, Ireland (comprised in folio 4917 County Waterford), by and between the Industrial Development Authority and Genzyme Ireland Limited. Filed as Exhibit 10.4 to Genzyme's Form 10-Q for the quarter ended September 30, 2001.
*10.10	Lease, dated August 24, 2001, for the land located at the Industrial Development Authority Industrial Park, County Waterford, Ireland (comprised in folio 4917 County Waterford) by the Industrial Development Authority and Genzyme Ireland Limited. Filed as Exhibit 10.5 to Genzyme's Form 10-Q for the quarter ended September 30, 2001.
*10.11	1997 Equity Incentive Plan, as amended. Filed as Exhibit 10.12 to Genzyme's Form 10-K for 2006.
*10.12	1998 Director Stock Option Plan, as amended. Filed as Exhibit 10.2 to Genzyme's Form 10-Q for the quarter ended June 30, 2006.
*10.12.1	Form of Non-Statutory Stock Option for grants under Genzyme's 1998 Director Stock Option Plan. Filed as Exhibit 10.5 to Genzyme's Form 10-Q for the quarter ended June 30, 2005.
*10.12.2	2007 Director Equity Plan, as amended. Filed as Appendix B to Genzyme's Proxy Statement on Schedule 14A filed April 10, 2008 for the 2008 Annual Meeting of Shareholders.
*10.12.3	Form of Non-Statutory Stock Option Agreement for grants under Genzyme's 2007 Director Equity Plan. Filed as Exhibit 10.3 to Genzyme's Form 10-Q for the quarter ended June 30, 2008.
*10.12.4	Form of Restricted Stock Unit Award Agreement for grants under Genzyme's 2007 Director Equity Plan. Filed as Exhibit 10.4 to Genzyme's Form 10-Q for the quarter ended June 30, 2008.
*10.13	2001 Equity Incentive Plan, as amended. Filed as Exhibit 10.14 to Genzyme's 10-K for 2006.
*10.13.1	Forms of Non-Statutory Stock Option Agreement for grants to executive officers under Genzyme's 2001 Equity Incentive Plan. Filed as Exhibit 10.5 to Genzyme's Form 10-Q for the quarter ended June 30, 2008.
*10.13.2	Forms of Incentive Stock Option Agreement for grants to executive officers under Genzyme's 2001 Equity Incentive Plan. Filed as Exhibit 10.6 to Genzyme's Form 10-Q for the quarter ended June 30, 2008.

EXHIBIT NO.	DESCRIPTION
*10.14	2004 Equity Incentive Plan, as amended. Filed as Appendix A to Genzyme's Proxy Statement on Schedule 14A filed April 10, 2008 for the 2008 Annual Meeting of Shareholders.
10.14.1	Forms of Incentive Stock Option Agreement for grants to executive officers under Genzyme's 2004 Equity Incentive Plan. Filed herewith.
10.14.2	Forms of Nonstatutory Stock Option Agreement for grants to executive officers under Genzyme's 2004 Equity Incentive Plan. Filed herewith.
*10.14.3	Forms of Restricted Stock Unit Award Agreement for grants to executive officers under Genzyme's 2004 Equity Incentive Plan. Filed as Exhibit 10.3 to Genzyme's Form 10-Q for the quarter ended March 31, 2008.
*10.15	1999 Employee Stock Purchase Plan, as amended. Filed as Exhibit 10.3 to Genzyme's Form 10-Q for the quarter ended June 30, 2007.
10.16	1996 Directors' Deferred Compensation Plan, as amended. Filed herewith.
*10.17	Amended and Restated Executive Employment Agreement effective as of December 31, 2008 between Genzyme Corporation and Henri A. Termeer. Filed as Exhibit 10.2 to Genzyme's Form 8-K filed December 5, 2008.
*10.18	Amended and Restated Executive Employment Agreement effective as of December 31, 2008 between Genzyme Corporation and Peter Wirth. Filed as Exhibit 10.3 to Genzyme's Form 8-K filed December 5, 2008.
*10.19	Form of Indemnification Agreement between Genzyme and its executive officers. Filed as Exhibit 10.1 to Genzyme's Form 10-Q for the quarter ended September 30, 2004.
*10.20	Form of Severance Agreement between Genzyme and its executive officers. Filed as Exhibit 10.2 to Genzyme's Form 10-Q for the quarter ended September 30, 2007.
*10.21	Genzyme Senior Executive Annual Cash Incentive Program. Filed as Exhibit 10.1 to Genzyme's Form 8-K filed December 5, 2008.
*10.22	Amended and Restated Collaboration Agreement, effective as of January 1, 2008, among Genzyme, BioMarin and BioMarin/Genzyme LLC. Filed as Exhibit 10.1 to Genzyme's Form 10-Q for the quarter ended March 31, 2008.**
*10.22.1	Manufacturing, Marketing and Sales Agreement among Genzyme, BioMarin and BioMarin/Genzyme LLC, effective as of January 1, 2008. Filed as Exhibit 10.2 to Genzyme's Form 10-Q for the quarter ended March 31, 2008.**
*10.23	Supply Agreement, dated January 24, 2006, by and between Cambrex Charles City, Inc. and Genzyme. Filed as Exhibit 10.1 to Genzyme's Form 10-Q for the quarter ended September 30, 2006.**
*10.24	Contract Manufacturing Agreement dated September 14, 2001, as amended, between GelTex and The Dow Chemical Company. Filed as Exhibit 10.35 to Genzyme's Form 10-K for 2002.**
*10.24.1	Second Amendment, dated October 9, 2002, to Contract Manufacturing Agreement dated September 14, 2001, between GelTex and The Dow Chemical Company. Filed as Exhibit 10.34.1 to Genzyme's Form 10-K for 2003.**
*10.24.2	Third Amendment, dated December 8, 2003, to Contract Manufacturing Agreement dated September 14, 2001, between GelTex and The Dow Chemical Company. Filed as Exhibit 10.34.2 to Genzyme's Form 10-K for 2003.**
*10.24.3	Fourth Amendment, dated July 1, 2004, to Contract Manufacturing Agreement dated September 14, 2001, between GelTex and The Dow Chemical Company. Filed as Exhibit 10.29.3 to Genzyme's Form 10-K for 2004.**
*10.24.4	Amended and Restated Contract Manufacturing Agreement signed as of December 15, 2006, between Genzyme (as successor to GelTex) and The Dow Chemical Company. Filed with Genzyme's Form 8-K filed on December 15, 2006.**

EXHIBIT NO.	DESCRIPTION
*10.25	Credit Agreement, dated July 14, 2006, among Genzyme and those of its subsidiaries party thereto, the lenders listed therein, JPMorgan Chase Bank, N.A., as administrative agent, Bank of America, N.A., as syndication agent, ABN AMRO Bank N.V., Citizens Bank of Massachusetts and Wachovia Bank, National Association, as co-documentation agents. Filed with Genzyme's Form 8-K filed on July 19, 2006.
*10.26	North American Termination and Transition Agreement, dated November 3, 2004, by and between Genzyme and Wyeth. Filed as Exhibit 10.31 to Genzyme's Form 10-K for 2004.**
*10.27	Purchase and Supply Agreement, effective as of January 1, 2005, by and between Genzyme and Invitrogen Corporation. Filed as Exhibit 10.3 to Genzyme's Form 10-Q for the quarter ended June 30, 2005.**
*10.27.1	Amendment No. 2 effective as of January 1, 2007 to Purchase and Supply Agreement, effective as of January 1, 2005, by and between Genzyme and Invitrogen Corporation. Filed as Exhibit 10.1 to Genzyme's Form 10-Q for the quarter ended June 30, 2007.**
*10.27.2	Amended and Restated Contract Purchase and Supply Agreement between Invitrogen Corporation and Genzyme Corporation effective December 31, 2007. Filed as Exhibit 10.1 to Genzyme's Form 10-Q for the quarter ended September 30, 2007.**
*10.28	License and Co-Development Agreement between Genzyme and Isis Pharmaceuticals, Inc. dated June 24, 2008. Filed as Exhibit 10.7 to Genzyme's Form 10-Q for the quarter ended June 30, 2008.**
13	Disclosure incorporated by reference into Parts I, II and IV of this Form 10-K. Furnished herewith.
21	Subsidiaries of Genzyme. Filed herewith.
23	Consent of PricewaterhouseCoopers LLP. Filed herewith.
31.1	Certification of the Chief Executive Officer pursuant to section 302 of the Sarbanes-Oxley Act of 2002. Filed herewith.
31.2	Certification of the Chief Financial Officer pursuant to section 302 of the Sarbanes-Oxley Act of 2002. Filed herewith.
32.1	Certification of the Chief Executive Officer pursuant to section 906 of the Sarbanes-Oxley Act of 2002. Furnished herewith.
32.2	Certification of the Chief Financial Officer pursuant to section 906 of the Sarbanes-Oxley Act of 2002. Furnished herewith.
99	Financial statements and notes thereto of BioMarin/Genzyme LLC as of December 31, 2007 and 2006, and for the years ended December 31, 2007 and 2006. Filed herewith.

* Indicates exhibit previously filed with the SEC and incorporated herein by reference. Exhibits filed with Forms 10-K, 10-Q, 8-K, 8-A, or Schedule 14A of Genzyme Corporation were filed under Commission File No. 0-14680.

** Confidential treatment has been requested or granted for the deleted portions of Exhibits 10.22 through 10.24.4 and 10.26 through 10.28.

EXECUTIVE COMPENSATION PLANS AND ARRANGEMENTS

Exhibits 10.11 through 10.21 above are management contracts or compensatory arrangements in which our executive officers or directors participate.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

GENZYME CORPORATION

Dated: February 27, 2009

By: /s/ MICHAEL S. WYZGA

Michael S. Wyzga
Executive Vice President, Finance And Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the date indicated.

Name	Title	Date
/s/ HENRI A. TERMEER Henri A. Termeer	Director and Principal Executive Officer	February 27, 2009
/s/ MICHAEL S. WYZGA Michael S. Wyzga	Principal Financial Officer	February 27, 2009
/s/ JASON A. AMELLO Jason A. Amello	Corporate Controller and Principal Accounting Officer	February 27, 2009
/s/ DOUGLAS A. BERTHIAUME Douglas A. Berthiaume	Director	February 27, 2009
/s/ GAIL K. BOUDREAUX Gail K. Boudreaux	Director	February 27, 2009
/s/ ROBERT J. CARPENTER Robert J. Carpenter	Director	February 27, 2009
/s/ CHARLES L. COONEY Charles L. Cooney	Director	February 27, 2009
/s/ VICTOR J. DZAU Victor J. Dzau	Director	February 27, 2009
/s/ CONNIE MACK III Connie Mack III	Director	February 27, 2009
/s/ RICHARD F. SYRON Richard F. Syron	Director	February 27, 2009

EXHIBIT 13

GENZYME CORPORATION AND SUBSIDIARIES
FINANCIAL STATEMENTS

GENZYME CORPORATION AND SUBSIDIARIES

Consolidated Selected Financial Data

The following financial data should be read in conjunction with our audited, consolidated financial statements and related notes contained elsewhere in this Annual Report on Form 10-K. These selected financial data may not be indicative of our future financial condition due to the risks and uncertainties associated with operating our business, including those described under the caption "Management's Discussion and Analysis of Genzyme Corporation and Subsidiaries' Financial Condition and Results of Operations—Risk Factors" included in this Annual Report on Form 10-K (amounts in thousands):

CONSOLIDATED STATEMENTS OF OPERATIONS DATA

	For the Years Ended December 31,				
	2008	2007	2006	2005	2004
Revenues:					
Net product sales	$4,196,907	$3,457,778	$2,887,409	$2,453,303	$1,976,191
Net service sales	366,091	326,326	282,118	261,379	212,392
Research and development revenue	42,041	29,415	17,486	20,160	12,562
Total revenues	4,605,039	3,813,519	3,187,013	2,734,842	2,201,145
Operating costs and expenses:					
Cost of products sold(1,2)	913,267	715,504	536,388	462,177	448,442
Cost of services sold(1)	235,295	211,826	199,283	170,475	140,144
Selling, general and administrative(1,3)	1,338,190	1,187,184	1,010,400	787,839	603,851
Research and development(1,4)	1,308,330	737,685	649,951	502,657	391,802
Amortization of intangibles	226,442	201,105	209,355	181,632	109,473
Purchase of in-process research and development(5)	—	106,350	552,900	29,200	254,520
Charges for impaired intangible assets and goodwill(6)	2,036	—	219,245	—	—
Total operating costs and expenses	4,023,560	3,159,654	3,377,522	2,133,980	1,948,232
Operating income (loss)	581,479	653,865	(190,509)	600,862	252,913
Other income (expenses):					
Equity in income (loss) of equity method investments	201	7,398	15,705	151	(15,624)
Minority interest	2,217	3,932	10,418	11,952	5,999
Gain (loss) on investments in equity securities, net(7)	(3,340)	13,067	73,230	5,698	(1,252)
Other	(1,861)	(637)	(2,045)	(1,535)	(357)
Investment income	51,260	70,196	56,001	31,429	24,244
Interest expense	(4,418)	(12,147)	(15,478)	(19,638)	(38,227)
Total other income (expenses)	44,059	81,809	137,831	28,057	(25,217)
Income (loss) before income taxes(1)	625,538	735,674	(52,678)	628,919	227,696
(Provision for) benefit from income taxes(1,6)	(204,457)	(255,481)	35,881	(187,430)	(141,169)
Net income (loss)(1)	$ 421,081	$ 480,193	$ (16,797)	$ 441,489	$ 86,527
Net income (loss) per share:					
Basic(1)	$ 1.57	$ 1.82	$ (0.06)	$ 1.73	$ 0.38
Diluted(1)	$ 1.50	$ 1.74	$ (0.06)	$ 1.65	$ 0.37

CONSOLIDATED BALANCE SHEET DATA

	December 31,				
	2008	2007	2006	2005	2004
Cash and investments(8)	$ 973,691	$1,460,394	$1,285,604	$1,089,102	$1,079,454
Working capital	1,601,852	1,137,904	1,338,062	1,114,976	1,009,231
Total assets	8,671,276	8,314,375	7,191,188	6,878,865	6,069,421
Long-term debt, capital lease obligations and convertible debt, including current portion	131,907	810,373	816,029	820,113	940,494
Stockholders' equity	7,305,993	6,612,937	5,660,711	5,149,867	4,380,156

There were no cash dividends paid.

(1) For the years ended December 31, 2008, 2007 and 2006, we recorded pre-tax stock-based compensation expense, which was allocated based on the functional cost center of each employee as follows (amounts in thousands, except per share amounts):

	For the Years Ended December 31,		
	2008	2007	2006
Cost of products and services sold	$ (27,555)	$ (25,677)	$ (21,430)
Selling, general and administrative	(102,745)	(106,172)	(121,822)
Research and development	(56,673)	(58,101)	(65,248)
Total	(186,973)	(189,950)	(208,500)
Less: tax benefit of stock options	56,740	58,148	66,331
Stock-based compensation expense, net of tax	$(130,233)	$(131,802)	$(142,169)
Net loss per share—basic and diluted	$ (0.49)	$ (0.50)	$ (0.54)

(2) Includes charges of:

- $12.6 million recorded in December 2008 for the write-off of inventory associated with terminated production runs of Myozyme at our Belgium facility; and
- $20.9 million recorded in 2007 to write off Thymoglobulin inventory which did not meet our specifications for saleable product.

(3) Includes a charge of $64.0 million recorded in 2007 to settle the litigation related to the consolidation of our former tracking stocks.

(4) Includes charges of:

- $16.0 million recorded in December 2008 for the license or purchase of certain intellectual property and technology relating to transactions with two third parties;
- $130.0 million recorded in October 2008 for amounts accrued or paid to Osiris Therapeutics, Inc., or Osiris, as an upfront, nonrefundable license fee;
- $100.0 million recorded in July 2008 as a nonrefundable upfront license fee payment to PTC Therapeutics, Inc., or PTC;

- $244.9 million recorded in 2008 for license fee payments to Isis Pharmaceuticals, Inc., or Isis; and
- $25.0 million recorded in 2007 for an upfront milestone payment paid to Ceregene Inc., or Ceregene, for the development and commercialization of CERE-120, a gene therapy product candidate.

(5) Includes charges for pre-tax IPR&D incurred in connection with the following acquisitions:

- 2007—Bioenvision;
- 2006—AnorMED Inc., or AnorMED;
- 2005—Avigen, Inc., or Avigen, Bone Care and Verigen;
- 2004—ILEX Oncology Inc., or ILEX Oncology.

(6) Charges for impaired intangible assets and goodwill includes the following charges recorded in accordance with Financial Accounting Standards Board, or FASB, Statement of Financial Accounting Standards No., or FAS, 142, "Goodwill and Other Intangible Assets":

- 2006—a $219.2 million pre-tax impairment charge and $69.8 million of related tax benefits to write off the goodwill of our genetics business unit.

(7) For 2007, includes a pre-tax gain of $10.8 million recorded on the sale of our entire investment in the common stock of Therapeutic Human Polyclonals Inc., or THP. For 2006, includes a $69.4 million gain on the sale of our entire investment in Cambridge Antibody Technology Group plc, or CAT.

(8) Includes cash, cash equivalents, and short- and long-term investments in debt securities.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF GENZYME CORPORATION AND SUBSIDIARIES' FINANCIAL CONDITION AND RESULTS OF OPERATIONS

When reviewing the discussion below, you should keep in mind the substantial risks and uncertainties that characterize our business. In particular, we encourage you to review the risks and uncertainties described under "Risk Factors" below. These risks and uncertainties could cause actual results to differ materially from those forecasted in forward-looking statements or implied by past results and trends. Forward-looking statements are statements that attempt to project or anticipate future developments in our business; we encourage you to review the examples of forward-looking statements under "Note Regarding Forward-Looking Statements" at the beginning of this report. These statements, like all statements in this report, speak only as of the date of this report (unless another date is indicated), and we undertake no obligation to update or revise the statements in light of future developments.

INTRODUCTION

We are a global biotechnology company dedicated to making a major impact on the lives of people with serious diseases. Our broad product and service portfolio is focused on rare disorders, renal disease, orthopaedics, cancer, transplant and immune disease, and diagnostic and predictive testing.

In the fourth quarter of 2008, we changed our segment reporting structure to better reflect the way we manage and measure the performance of our businesses. Under the new reporting structure, we are organized into four financial reporting units, which we also consider to be our reporting segments:

- Genetic Diseases, which develops, manufactures and distributes therapeutic products, with an expanding focus on products to treat patients suffering from genetic diseases and other chronic debilitating diseases, including a family of diseases known as LSDs. The unit derives substantially all of its revenue from sales of Cerezyme, Fabrazyme, Myozyme and Aldurazyme;
- Cardiometabolic and Renal, which develops, manufactures and distributes products that treat patients suffering from renal diseases, including chronic renal failure, and endocrine and cardiovascular diseases. The unit derives substantially all of its revenue from sales of Renagel/ Renvela (including sales of bulk sevelamer), Hectorol and Thyrogen;
- Biosurgery, which develops, manufactures and distributes biotherapeutics and biomaterial-based products, with an emphasis on products that meet medical needs in the orthopaedics and broader surgical areas. The unit derives substantially all of its revenue from sales of Synvisc, the Sepra line of products, Carticel and MACI; and
- Hematologic Oncology, which develops, manufactures and distributes products for the treatment of cancer. The unit derives substantially all of its revenue from sales and royalties received on sales of Campath and clofarabine. This unit also includes Mozobil, which received marketing approval in the United States in December 2008. Clofarabine is marketed under the name Clolar in North and South America and as Evoltra elsewhere in the world.

Our transplant business unit, which develops, manufactures and distributes therapeutic products that address pre-transplantation, prevention and treatment of graft rejection in organ transplantation and other hematologic and auto-immune disorders, and our genetics business unit, which provides testing services for the oncology, prenatal and reproductive markets, were formerly reported as separate reporting segments. Beginning with this report, we now include our transplant and genetics business units under the caption "Other." We also report the activities of our diagnostic products, bulk pharmaceuticals and immune mediated disease business units under the caption "Other." These operating segments did not meet the quantitative threshold for separate segment reporting.

We report our corporate, general and administrative operations and corporate science activities under the caption "Corporate." Effective January 1, 2008, as a result of changes in how we review our business, certain general and administrative expenses that were formerly allocated amongst our reporting segments and "Other" are now allocated to "Corporate."

We have reclassified our 2007 and 2006 segment disclosures to conform to our 2008 presentation.

MERGERS, ACQUISITIONS AND STRATEGIC TRANSACTIONS

2008 Strategic Transactions:

We classify nonrefundable fees paid outside of a business combination for the acquisition or licensing of products that have not received regulatory approval and have no future alternative use as research and development expense.

Strategic Alliance with Osiris

In October 2008, we entered into a strategic alliance with Osiris, whereby we obtained an exclusive license to develop and commercialize Prochymal and Chondrogen, mesenchymal stem cell products, outside of the United States and Canada. Osiris will commercialize Prochymal and Chondrogen in the United States and Canada. We paid Osiris a nonrefundable upfront payment of $75.0 million in November 2008, and will pay an additional $55.0 million nonrefundable upfront license fee on July 1, 2009. The results of these programs are included in our immune mediated diseases business unit, which are reported under the category "Other" in our segment disclosures.

Osiris will be responsible for completing, at its own expense, all clinical trials of Prochymal for the treatment of GvHD and Crohn's disease, both of which are in phase 3 trials, and clinical trials of Prochymal and Chondrogen through phase 2 for all other indications. Osiris will be responsible for 60% and we will be responsible for 40% of the clinical trial costs for phase 3 and 4 clinical trials of Prochymal (other than for the treatment of GvHD and Crohn's disease) and Chondrogen. Osiris is eligible to receive:

- up to $500.0 million in development and regulatory milestone payments for all indications of Prochymal and up to $100.0 million for Chondrogen, unless we elect to opt out of further development of Chondrogen; and
- up to $250.0 million in sales milestones for all indications of Prochymal and up to $400.0 million in sales milestones for all indications of Chondrogen for the prevention and treatment of conditions of articulating joints.

Osiris is also eligible to receive tiered royalties from us on sales of Prochymal and Chondrogen outside of the United States and Canada.

Strategic Alliance with PTC

On July 15, 2008, we entered into a collaboration agreement with PTC to develop and commercialize ataluren (formerly known as PTC124), PTC's novel oral therapy in late-stage development for the treatment of nonsense-mutation-mediated Duchenne muscular dystrophy, or DMD, and nonsense-mutation-mediated cystic fibrosis, or CF. Under the terms of the agreement, PTC will commercialize ataluren in the United States and Canada, and we will commercialize the treatment in all other countries. In connection with the collaboration agreement, we paid PTC a nonrefundable upfront payment of $100.0 million, which we recorded as a charge to research and development expense for our Genetic Diseases segment in our consolidated statements of operations during the third quarter of 2008. At its own expense, PTC will conduct and be responsible for the phase 2b trial of ataluren in DMD, the phase 2b trial of ataluren in CF and two proof-of-concept studies in other

indications to be determined. Once these four studies have been completed, we and PTC will share research and development costs for ataluren equally. We and PTC will each bear the sales and marketing and other costs associated with the commercialization of ataluren in our respective territories. PTC is eligible to receive up to $337.0 million in milestone payments as follows:

- up to $165.0 million in development and approval milestones, the majority of which would be paid upon the receipt of approvals obtained outside of the United States and Canada; and
- up to $172.0 million in sales milestones, commencing if and when annual net sales for ataluren outside of the United States and Canada reach $300.0 million and increasing in increments through revenues of $2.4 billion.

PTC is also eligible to receive tiered royalties from sales of ataluren outside of the United States and Canada. The results of our ataluren program are included in the results of our Genetic Diseases segment disclosures.

Strategic Alliance with Isis

On January 7, 2008, we entered into a strategic alliance with Isis, whereby we obtained an exclusive, worldwide license to develop and commercialize mipomersen, a lipid-lowering drug targeting apolipoprotein B-100, which is currently being developed for the treatment of familial hypercholesterolemia, or FH, an inherited disorder that causes exceptionally high levels of LDL-cholesterol. In February 2008, we made a nonrefundable payment to Isis of $150.0 million, of which $80.1 million was recorded as an other noncurrent asset in our consolidated balance sheets based on the fair value of the five million shares of Isis common stock we acquired in connection with the transaction. Due to certain trading restrictions, we classify this investment as other noncurrent assets. We allocated the remaining $69.9 million to the mipomersen license, which we recorded as a charge to research and development expense in our consolidated statements of operations during the first quarter of 2008.

In June 2008, we finalized the terms of our license and collaboration agreement with Isis and paid Isis an additional $175.0 million upfront nonrefundable license fee. Under the terms of the agreement, Isis will be responsible, at its own expense, for up to $125.0 million for the development of mipomersen. Thereafter, we and Isis will share development costs for mipomersen equally. The initial funding commitment by Isis and shared development funding would end when the mipomersen program is profitable. In the event the research and development of mipomersen is terminated prior to Isis completing their funding obligation, we are not entitled to any refund of our $175.0 million upfront payment. Isis is eligible to receive up to $750.0 million in commercial milestone payments and up to $825.0 million in development and regulatory milestone payments.

We will be responsible for funding sales and marketing expenses until mipomersen revenues are sufficient to cover such costs. Profits on mipomersen initially will be allocated 70% to us and 30% to Isis. The profit ratio would be adjusted on a sliding scale if and as annual revenues for mipomersen ramp up to $2.0 billion, at which point we would share profits equally with Isis. The results of our mipomersen program are included in the results of our cardiovascular business unit, which are reported in our Cardiometabolic and Renal segment disclosures.

2007 Acquisitions:

The following acquisitions were accounted for as business combinations and, accordingly, we have included their results of operations in our consolidated statements of operations from the date of acquisition.

Diagnostic Assets of Diagnostic Chemicals Limited

On December 3, 2007, we acquired certain diagnostic assets from Diagnostic Chemicals Limited, or DCL, a privately-held diagnostics and biopharmaceutical company based in Charlottetown, Prince Edward Island, Canada, including DCL's line of over 50 formulated clinical chemistry reagents and its diagnostics operations in Prince Edward Island, Canada and Connecticut. The results of these diagnostic operations are included in our diagnostic products business unit, which is reported under the category "Other" in our segment disclosures. We paid gross consideration of $53.3 million Canadian dollars, or $53.8 million U.S. dollars (based on the December 3, 2007 spot rate for the Canadian dollar), in cash.

Bioenvision

Effective October 23, 2007, we completed our acquisition of Bioenvision through the culmination of a two-step process consisting of a tender offer completed in July 2007, and a merger approved in October 2007. We paid gross consideration of $366.5 million in cash, including $362.0 million for the outstanding shares of Bioenvision common and preferred stock and options to purchase shares of Bioenvision common stock, and approximately $5 million for acquisition costs. The acquisition of Bioenvision provided us with the exclusive, worldwide rights to clofarabine.

2006 Acquisition:

AnorMED

In November 2006, we acquired AnorMED, a publicly-traded chemical-based biopharmaceutical company based in Langley, British Columbia, Canada with a focus on the discovery, development and commercialization of new therapeutic products in the area of hematology, oncology and human immunodeficiency virus, or HIV. We paid gross consideration of $589.2 million in cash, including $584.2 million for the shares of AnorMED's common stock outstanding on the date of acquisition and approximately $5 million for acquisition costs. Net consideration was $569.0 million as we acquired AnorMED's cash and short-term investments totaling $20.2 million. As part of the transaction, we acquired Mozobil.

CRITICAL ACCOUNTING POLICIES AND SIGNIFICANT JUDGMENTS AND ESTIMATES

The significant accounting policies and methods used in the preparation of our consolidated financial statements are described in Note A., "Summary of Significant Accounting Policies." The preparation of consolidated financial statements under accounting principles generally accepted in the United States of America requires us to make certain estimates and judgments that affect reported amounts of assets, liabilities, revenues, expenses, and disclosure of contingent assets and liabilities in our financial statements. Our actual results could differ from these estimates under different assumptions and conditions. We believe that the following critical accounting policies affect the significant judgments and estimates used in the preparation of our consolidated financial statements:

- Revenue Recognition;
- Stock-Based Compensation;
- Income Taxes;
- Inventories;
- Long-Lived and Intangible Assets;
- Asset Impairments;
- IPR&D; and

- Investments in Debt and Equity Securities.

Revenue Recognition

Product Sales

The timing of product shipments and receipts by the customer can have a significant impact on the amount of revenue recognized in a particular period. A significant portion of our products are sold at least in part through wholesalers and specialty distributors, along with direct sales to hospitals, homecare providers, government agencies and physicians. Consequently, our net sales and quarterly growth comparisons may be affected by fluctuations in the buying patterns of our major distributors and other trade buyers, which may result from seasonality, pricing, wholesaler buying decisions or other factors. Inventory in the distribution channel consists of inventory held by wholesalers and specialty distributors, who are our customers, and inventory held by their retail customers, such as pharmacies and hospitals. Our revenue in a particular period can be impacted by increases or decreases in channel inventories. Significant increases in wholesaler or retail inventories could result in reduced purchases in subsequent periods, or product returns from the distribution channel due to overstocking, low end-user demand or product expiration.

We use a variety of data sources to determine the amount of inventory in the distribution channel. For most product lines, we receive data on sales and inventory levels directly from our primary customers. For key product lines in our Cardiometabolic and Renal and our Genetic Diseases areas, our data sources also include prescription and wholesaler data purchased from external data providers. As part of our efforts to limit the amount of Cardiometabolic and Renal and Genetic Diseases inventory held by distributors and to gain improved visibility into the distribution channel, we have executed agreements to limit the amounts of inventory they carry and to provide us ongoing reports to verify distributor inventory levels and sales data.

Product Sales Allowances

Sales of many biotechnology products in the United States are subject to increased pricing pressure from managed care groups, institutions, government agencies, and other groups seeking discounts. We and other biotechnology companies in the U.S. market are also required to provide statutorily defined rebates and discounts to various U.S. government agencies in order to participate in the Medicaid program and other government-funded programs. In most international markets, we operate in an environment where governments may and have mandated cost-containment programs, placed restrictions on physician prescription levels and patient reimbursements, emphasized greater use of generic drugs and enacted across-the-board price cuts as methods to control costs. The sensitivity of our estimates can vary by program, type of customer and geographic location. Estimates associated with Medicaid and other government allowances may become subject to adjustment in a subsequent period.

We record product sales net of the following significant categories of product sales allowances:

- **Contractual adjustments**—We offer chargebacks and contractual discounts and rebates, which we collectively refer to as contractual adjustments, to certain private institutions and various government agencies in both the United States and international markets. We record chargebacks and contractual discounts as allowances against accounts receivable in our consolidated balance sheets. We account for rebates by establishing an accrual for the amounts payable by us to these agencies and institutions, which is included in accrued liabilities in our consolidated balance sheets. We estimate the allowances and accruals for our contractual adjustments based on historical experience and current contract prices, using both internal data as well as information obtained from external sources, such as independent market research agencies and data from wholesalers. We continually monitor the adequacy of these estimates and adjust the allowances and accruals periodically throughout each quarter to reflect our actual

experience. In evaluating these allowances and accruals, we consider several factors, including significant changes in the sales performance of our products subject to contractual adjustments, inventory in the distribution channel, changes in U.S. and foreign healthcare legislation impacting rebate or allowance rates, changes in contractual discount rates and the estimated lag time between a sale and payment of the corresponding rebate;

- **Discounts**—In some countries, we offer cash discounts for certain products as an incentive for prompt payment, which are generally a stated percentage off the sales price. We account for cash discounts by reducing accounts receivable by the full amounts of the discounts. We consider payment performance and adjust the accrual to reflect actual experience; and
- **Sales returns**—We record allowances for product returns at the time product sales are recorded. The product returns reserve is estimated based on the returns policies for our individual products and our experience of returns for each of our products. If the price of a product changes or if the history of product returns changes, the reserve is adjusted accordingly. We determine our estimates of the sales return accrual for new products primarily based on the historical sales returns experience of similar products, or those within the same or similar therapeutic category.

Our provisions for product sales allowances reduced gross product sales as follows (amounts in thousands):

	2008	2007	2006	08/07 Increase/ (Decrease) % Change	07/06 Increase/ (Decrease) % Change
Product sales allowances:					
Contractual adjustments	$ 505,027	$ 377,852	$ 298,274	34%	27%
Discounts	23,390	20,037	17,541	17%	14%
Sales returns	23,214	15,342	13,853	51%	11%
Total product sales allowances	$ 551,631	$ 413,231	$ 329,668	33%	25%
Total gross product sales	$4,748,539	$3,871,009	$3,217,077	23%	20%
Total product sales allowances as a percent of total gross product sales	12%	11%	10%		

Total product sales allowances increased $138.4 million, or 33%, in 2008, as compared to 2007, primarily due to an increase in overall gross product sales and changes in rebate rates and product mix. The increase in sales returns allowances in 2008, as compared to 2007 is primarily due to increased sales returns allowances for our Cardiometabolic and Renal segment due to a Renagel/Renvela price increase in August 2008 and revisions to our estimates of the volume of product returns for our Cardiometabolic and Renal segment as well as our Biosurgery segment. Product sales allowances for contractual adjustments and discounts increased for the year ended December 31, 2007, as compared to the same period of 2006, primarily due to growth in overall gross product and to a lesser extent, changes in rebate rates or product mix.

Total estimated product sales allowance reserves and accruals in our consolidated balance sheets increased 35% to approximately $210 million as of December 31, 2008, as compared to approximately $155 million as of December 31, 2007, primarily due to increased product sales, price increases, higher rebate rates and changes in timing of certain payments. Our actual results have not differed materially from amounts recorded. The annual variation has been less than 0.5% of total product sales for each of the last three years.

Distributor Fees

EITF Issue No. 01-9, "Accounting for Consideration given by a Vendor to a Customer (including a Reseller of a Vendor's Products)" specifies that cash consideration (including a sales incentive) given by a vendor to a customer is presumed to be a reduction of the selling prices of the vendor's products or services and, therefore, should be characterized as a reduction of revenue. We include such fees in contractual adjustments, which are recorded as a reduction to product sales. That presumption is overcome and the consideration should be characterized as a cost incurred if, and to the extent that, both of the following conditions are met:

- the vendor receives, or will receive, an identifiable benefit (goods or services) in exchange for the consideration; and
- the vendor can reasonably estimate the fair value of the benefit received.

We record service fees paid to our distributors as a charge to SG&A, a component of operating expenses, only if the criteria set forth above are met. The following table sets forth the distributor fees recorded as a reduction to product sales and charged to SG&A (amounts in thousands):

	Year Ended December 31,		
	2008	2007	2006
Distributor fees:			
Included in contractual adjustments and recorded as a reduction to product sales	$13,502	$12,445	$ 8,956
Charged to SG&A	13,514	13,190	10,550
Total distributor fees	$27,016	$25,635	$19,506

Collaborations

We evaluate revenue from agreements that have multiple elements to determine whether the components of the arrangement represent separate units of accounting as defined in EITF Issue No. 00-21, "Revenue Arrangements with Multiple Deliverables." To recognize revenue for a delivered item in a multiple element arrangement, EITF Issue No. 00-21 requires that:

- the delivered items have value to the customer on a stand-alone basis;
- there is objective and reliable evidence of fair value of the undelivered items; and
- delivery or performance is probable and within our control for any delivered items that have a right of return.

The determination that multiple elements in an arrangement meet the criteria for separate units of accounting requires us to exercise our judgment.

We consider the factors or indicators set forth in EITF Issue No. 99-19, "Reporting Revenue Gross as a Principal versus Net as an Agent," in deciding whether to record revenue on a gross or net basis. The determination of whether we should recognize revenue on a gross or net basis involves judgment based on the relevant facts and circumstances which relate primarily to whether we act as a principal or agent in the process of generating revenues for the revenue transactions.

Stock-Based Compensation

We recognize stock-based compensation in accordance with the provisions of FAS 123R, "Share-Based Payment, an amendment of FASB Statement Nos. 123 and 95," which requires us to recognize stock-based compensation expense in our financial statements for all share-based payment awards, including stock options and restricted stock units, or RSUs, made to employees and directors based upon the grant date fair value of those awards.

We estimate the fair value of each stock option grant using the Black-Scholes option pricing model. Use of a valuation model requires management to make certain assumptions with respect to selected model inputs. The key assumptions in the Black-Scholes model are the risk-free interest rate, the dividend yield, the expected option life (in years) and the expected volatility of the price of Genzyme Stock. The risk-free interest rate is based on the U.S. Treasury yield curve in effect on the date of grant. The dividend yield percentage is zero because we do not currently pay dividends nor intend to do so during the expected option life. We use historical data on exercises of our stock options and other factors to estimate the expected option life (in years), or term, of the share-based payments granted. We estimate the expected volatility rate for our stock options based on historical volatility of our stock over the expected term of the equity award granted. We determine separate volatility rates for each enrollment under our ESPP based on the period from the commencement date of each enrollment to each applicable purchase date. Changes in these input variables would affect the amount of expense associated with stock-based compensation. The compensation expense recognized for all share-based awards is net of estimated forfeitures. We estimate forfeiture rates based on historical analysis of option forfeitures. If actual forfeitures should vary from estimated forfeitures, adjustments to stock-based compensation expense may be required in future periods.

Income Taxes

We use the asset and liability method of accounting for deferred income taxes. We are subject to income taxes in the United States and numerous foreign jurisdictions; however, our most significant tax jurisdictions are the U.S. federal and states. Significant judgments, estimates and assumptions regarding future events, such as the amount, timing and character of income, deductions and tax credits, are required in the determination of our provision for income taxes and whether valuation allowances are required against deferred tax assets. These judgments, estimates and assumptions involve:

- interpreting the tax laws in various jurisdictions in which we operate;
- analyzing changes in tax laws, regulations, and treaties, foreign currency exchange restrictions; and
- estimating our levels of income, expenses and profits in each jurisdiction and the potential impact of that income on the tax liability in any given year.

We operate in many jurisdictions where the tax laws relating to the pricing of transactions between related parties are open to interpretation, which could potentially result in tax authorities asserting additional tax liabilities with no offsetting tax recovery in other countries.

Uncertainties exist with respect to the interpretation of complex tax regulations and the amount and timing of future taxable income. Given the wide range of international business relationships and the long-term nature and complexity of existing contractual agreements, differences arising between the actual results and the assumptions made, or future changes to such assumptions, could necessitate adjustments to the tax benefit and provision in future periods. We establish what we believe to be reasonable provisions for possible consequences of audits by the tax authorities of the respective countries. The amount of such provisions is based on various factors, such as experience with previous tax audits and differing interpretations of tax regulations by the taxable entity and the responsible tax authority. Such differences in interpretation may arise on a wide variety of issues depending on the conditions prevailing in the respective domicile. We develop our cumulative probability assessment of the measurement of uncertain tax positions under FASB Interpretation No., or FIN, 48 "Accounting for Uncertainty in Income Taxes—an Interpretation of FASB Statement No. 109," using internal expertise, experience and judgment. Estimates are refined as additional information becomes known. Any outcome upon settlement that differs from our initial estimate may result in additional or lower tax expense in future periods. However, we do not believe it is possible to reasonably estimate the potential impact of changes to the assumptions, estimates and judgments identified because the

resulting change to our tax liability, if any, is dependent on numerous factors, including among others: changes in tax law, the amount and nature of additional taxes potentially asserted by local tax authorities; the willingness of local tax authorities to negotiate a fair settlement through an administrative process; the impartiality of the local courts; and the potential for changes in the tax paid to one country to either produce, or fail to produce, an offsetting tax change in other countries.

In accordance with FIN 48, adopted on January 1, 2007, we apply a two-step approach to recognize and measure uncertain tax positions (tax contingencies) accounted for under FAS No. 109. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates it is more likely than not that the tax position will be sustained based on the technical merits of the tax position. The second step is the measurement of the tax benefit, which is the largest amount, using cumulative probability measure, which is likely to be realized upon ultimate audit settlement, including resolution of related appeals or litigation processes, if any. We consider many factors, including the factors described above, when evaluating and estimating our tax positions and tax benefits, which requires periodic adjustments and may not accurately forecast actual outcomes.

Inventories

We value inventories at cost or, if lower, fair value. We determine cost using the first-in, first-out method. We analyze our inventory levels quarterly and write down inventory, as a charge to cost of sales that has become obsolete due to anticipated product expiration, inventory that has a cost basis in excess of its expected net realizable value and inventory in excess of expected requirements. Expired inventory is disposed of and the related costs are written off. If actual market conditions are less favorable than those projected by management, additional inventory write-downs may be required.

We capitalize inventory produced for commercial sale, which may result in the capitalization of inventory prior to regulatory approval of a product. In no event is inventory capitalized prior to the completion of a phase 3 clinical trial. If a product is not approved for sale, it would result in the write off of the inventory and a charge to earnings. Our total inventories at December 31, 2008 included $9.2 million of Myozyme and $3.5 million of Campath inventory, produced at our manufacturing facility in Belgium, that has not yet been approved for sale. Our inventories as of December 31, 2007 did not include any inventory for products that have not yet been approved for sale.

We periodically review our inventories for excess or obsolete inventory and write down obsolete or otherwise unmarketable inventory to its estimated net realizable value. If the actual net realizable value is less than the value we estimate, or if there are any further determinations that inventory will not be marketable based on estimates of demand, additional inventory write downs will be required. Additionally, our products are subject to strict quality control and monitoring throughout the manufacturing process. Periodically, certain lots of inventory may fail to meet our quality specifications during the manufacturing process or prior to sale, or may expire. For such lots, we consider the factors affecting the decline in quality of the lot and assess the likelihood that the lot can be reworked into saleable product, or whether the lot is unmarketable. We record a charge to cost of products sold in our consolidated statement of operations to write off the value of any unmarketable inventory in the period in which we determine that the product no longer meets our criteria for saleable product. The determination of what factors may cause a lot to fail to meet our quality standards, the assessment of whether we can rework the lot within the scope of the approved manufacturing process for the product and the likelihood that we can complete such rework in a timely fashion involve judgments that can affect the amount and timing of the charges we record to write off the value of unmarketable inventory.

In December 2008, we wrote off Myozyme inventory costs of $12.6 million related to terminated production runs during 2008 at our Belgium facility. Subsequent to December 31, 2008, additional terminated production runs at our Belgium facility were identified. Therefore, we anticipate writing off additional Myozyme inventory valued at approximately $9 million in the first quarter of 2009.

Long-Lived and Intangible Assets

Property, Plant and Equipment

As of December 31, 2008, there was $2.3 billion of net property, plant and equipment on our consolidated balance sheet. We generally depreciate property, plant and equipment using the straight-line method over its estimated economic life, which ranges from 3 to 40 years. Determining the economic lives of property, plant and equipment requires us to make significant judgments that can materially impact our operating results. If our estimates require adjustment, it could have a material impact on our reported results.

In the ordinary course of our business, we incur substantial costs to purchase and construct property, plant and equipment. The treatment of costs to purchase or construct these assets depends on the nature of the costs and the stage of construction. Costs incurred in the initial design and evaluation phase, such as the cost of performing feasibility studies and evaluating alternatives, are charged to expense. Qualifying costs incurred in the committed project planning and design phase, and in the construction and installation phase, are capitalized as part of the cost of the asset. We stop capitalizing costs when an asset is substantially complete and ready for its intended use. Determining the appropriate period during which to capitalize costs, and assessing whether particular costs qualify for capitalization, requires us to make significant judgments. These judgments can have a material impact on our reported results.

Equipment and facilities used to manufacture products subject to FDA or other governmental regulation are required to comply with standards of those regulatory agencies. The activities necessary to obtain approval from these regulatory agencies are referred to as validation costs. We capitalize the cost of validating new equipment and facilities for the underlying manufacturing process. We begin capitalization when we consider the product and manufacturing process to have demonstrated technological feasibility, and end capitalization when the asset is substantially complete and ready for its intended use. Costs capitalized include incremental labor and direct material, and incremental fixed overhead. Determining whether to capitalize validation costs requires judgment, and can have a significant impact on our reported results. Also, if we were unable to successfully validate the manufacturing process for any future product, we would have to write off to current operating expense any validation costs that had been capitalized during the unsuccessful validation process. Costs to initiate new projects in an existing facility are treated as start-up costs and expensed as incurred. As of December 31, 2008, capitalized validation costs, net of accumulated depreciation, were $32.9 million.

Goodwill and Other Intangible Assets

As of December 31, 2008, there was approximately $1.4 billion of net goodwill and $1.9 billion of net other intangible assets on our consolidated balance sheet. We amortize intangible assets using the straight-line method over their estimated economic lives, which range from 1 and 15 years, or using the economic use method if that method results in significantly greater amortization than the straight-line method. Determining the economic lives of acquired intangible assets requires us to make significant judgment and estimates, and can materially impact our operating results. For certain acquired intangible assets, we may be required to make additional payments contingent upon meeting certain sales targets. We record amortization expense for these intangibles based on estimated future sales of the related products and include in the determination of amortization all contingent payments that we believe are probable of being made. We apply this amortization model to our Synvisc distribution rights (acquired from Wyeth) and our license agreement with Synpac related to Myozyme patents. We review the sales forecasts of these products on a quarterly basis and assess the impact changes in the forecasts have on the rate of amortization and the likelihood that contingent payments will be made. Adjustments to amortization expense resulting from changes in estimated sales are reflected prospectively.

Asset Impairments

Impairment of Goodwill

FAS 142 requires periodic tests of goodwill for impairment and that other intangible assets be amortized over their useful lives unless these lives are determined to be indefinite. FAS 142 requires goodwill be tested using a two-step process. The first step compares the fair value of the reporting unit with the unit's carrying value, including goodwill. When the carrying value of the reporting unit is greater than fair value, the unit's goodwill may be impaired, and the second step must be completed to measure the amount of the goodwill impairment charge, if any. In the second step, the implied fair value of the reporting unit's goodwill is compared with the carrying amount of the unit's goodwill. If the carrying amount is greater than the fair values, the carrying value of the goodwill must be written down to its implied fair value. We determine the fair values by discounting, to present value, the estimated future cash flow of the reporting unit, which includes various analyses, assumptions and estimates including discount rates, projected results and estimated cash flows.

We are required to perform impairment tests under FAS 142 annually and whenever events or changes in circumstances suggest that the carrying value of an asset may not be recoverable. For all of our acquisitions, various analyses, assumptions and estimates were made at the time of each acquisition specifically regarding product development, market conditions and cash flows that were used to determine the valuation of goodwill and intangibles. We perform our required annual impairment tests for our goodwill in the third quarter of each year. When we perform impairment tests in future years, the possibility exists that changes in forecasts and estimates from those used at the acquisition date could result in impairment charges.

Impairment of Tangible and Intangible Assets, Other Than Goodwill

We periodically evaluate long-lived assets for potential impairment under FAS 144, "Accounting for the Impairment or Disposal of Long-Lived Assets." We perform these evaluations whenever events or changes in circumstances suggest that the carrying value of an asset or group of assets is not recoverable. If we believe an indicator of potential impairment exists, we test to determine whether the impairment recognition criteria in FAS 144 have been met. In evaluating long-lived assets for potential impairment, we make several significant estimates and judgments, including:

- determining the appropriate grouping of assets at the lowest level for which cash flows are available;
- estimating future cash flows associated with the asset or group of assets; and
- determining an appropriate discount rate to use in the analysis.

Use of different estimates and judgments could yield significantly different results in this analysis and could result in materially different asset impairment charges.

In-Process Research and Development

In-process research and development represents the fair value assigned to incomplete technologies that we acquire through business combinations, which at the time of acquisition, have not reached technological feasibility and have no alternative future use. For transactions that closed prior to 2009, the fair value of such technologies is expensed upon acquisition. A technology is considered to have an alternative future use if it is probable that the acquirer will use the asset in its current, incomplete state as it existed at the acquisition date, the asset will be used in another research and development project that has not yet commenced, and economic benefit is anticipated from that use. If a technology is determined to have an alternative future use, then the fair value of the program would be recorded as an asset on the balance sheet rather than expensed. None of the incomplete technology programs we have acquired through our business combinations have reached technological feasibility nor had an

alternative future use and, therefore, the fair value of those programs was expensed on the acquisition date. Substantial additional research and development will be required before any of our acquired programs reach technological feasibility. In addition, once research is completed, each underlying product candidate will need to complete a series of clinical trials and receive regulatory approvals prior to commercialization.

Charges for in-process research and development acquired through business combinations, which we refer to as IPR&D, are classified in our consolidated statements of operations within the line item Purchase of In-Process Research and Development. Conversely, nonrefundable fees paid outside of a business combination for the acquisition or licensing of products that have not received regulatory approval and have no future alternative use are classified in our consolidated statements of operations within the line item Research and Development.

Management assumes responsibility for determining the valuation of the acquired IPR&D programs. The fair value assigned to IPR&D for each acquisition is estimated by discounting, to present value, the future cash flows expected from the programs. Accordingly, such cash flows reflect our estimates of revenues, costs of sales, operating expenses and income taxes from the acquired IPR&D programs based on the following factors:

- relevant market sizes and market growth factors;
- current and expected trends in technology and product life cycles;
- the time and investment that will be required to develop products and technologies;
- the ability to obtain marketing authorization and regulatory approvals;
- the ability to manufacture and commercialize the products;
- the extent and timing of potential new product introductions by our competitors that may be deemed more efficacious, more convenient to use, or more cost effective;
- the amount of revenues that will be derived from the products; and
- the appropriate discount rates to use in the analysis.

The discount rates used are commensurate with the uncertainties associated with the economic estimates described above. The resulting discounted future cash flows are then probability-adjusted to reflect the different stages of development, the time and resources needed to complete the development of the product and the risks of advancement through the product approval process. In estimating the future cash flows, we also consider the tangible and intangible assets required for successful exploitation of the technology resulting from the purchased IPR&D programs and adjust future cash flows for a charge reflecting the contribution to value of these assets. Such contributory tangible and intangible assets may include, but are not limited to, working capital, fixed assets, assembled workforce, customer relationships, patents, trademarks, and core technology.

Use of different estimates and judgments could yield materially different results in our analysis and could result in materially different asset values and IPR&D expense. There can be no assurance that we will be able to successfully develop and complete the acquired IPR&D programs and profitably commercialize the underlying product candidates before our competitors develop and commercialize products for the same indications. Moreover, if certain of the acquired IPR&D programs fail, are abandoned during development, or do not receive regulatory approval, then we may not realize the future cash flows we have estimated and recorded as IPR&D on the acquisition date, and we may also not recover the research and development investment made since the acquisition to further develop that program. If such circumstances were to occur, our future operating results could be materially adversely impacted.

Investments in Debt and Equity Securities

We invest a portion of our excess cash balances in short-term and long-term marketable debt securities. The earnings on our investment portfolios may be adversely affected by changes in interest rates, credit ratings, collateral value, the overall strength of credit markets, and other factors that may result in other than temporary declines in the value of the securities.

We also invest in equity securities as part of our strategy to align ourselves with technologies and companies that fit with our strategic direction. Most often we will collaborate on scientific programs and research with the issuers of the securities.

Effective January 1, 2008, we implemented FAS 157, "Fair Value Measurements," for our financial assets and liabilities that are re-measured and reported at fair value at each reporting period. The adoption of FAS 157 for our financial assets and liabilities did not have a material impact on our consolidated financial position and results of operations.

FAS 157 provides a framework for measuring fair value and requires expanded disclosures regarding fair value measurements. FAS 157 defines fair value as the price that would be received to sell an asset or paid to transfer a liability (i.e., the "exit price") in an orderly transaction between market participants at the measurement date. In determining fair value, FAS 157 permits the use of various valuation approaches, including market, income and cost approaches. FAS 157 establishes a hierarchy for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the observable inputs be used when available.

The fair value hierarchy is broken down into three levels based on the reliability of inputs. We have categorized our fixed income, derivatives and equity securities within the hierarchy as follows:

- Level 1—These valuations are based on a "market approach" using quoted prices in active markets for identical assets. Valuations of these products do not require a significant degree of judgment. Assets utilizing Level 1 inputs include money market funds, U.S. government securities, and exchange-traded equity securities;
- Level 2—These valuations are based primarily on a "market approach" using quoted prices in markets that are not very active, broker or dealer quotations, or alternative pricing sources with reasonable levels of price transparency. Fixed income assets utilizing Level 2 inputs include U.S. agency securities, including direct issuance bonds and mortgage-backed securities, asset-backed securities, corporate bonds and commercial paper. Derivative securities utilizing Level 2 inputs include forward foreign-exchange contracts; and
- Level 3—These valuations are based on various approaches using inputs that are unobservable and significant to the overall fair value measurement. Certain assets are classified within Level 3 of the fair value hierarchy because they trade infrequently and, therefore, have little or no transparency. We currently have no financial assets or liabilities that are valued with Level 3 inputs.

Valuation Techniques

Fair value is a market-based measure considered from the perspective of a market participant who would buy the asset or assume the liability rather than our own specific measure. All of our fixed income securities are priced using a variety of daily data sources, largely readily-available market data. To validate these prices, we compare the fair market values of our fixed income investments using market data from observable and corroborated sources. We also perform the fair value calculations for our derivative and equity securities using market data from observable and corroborated sources. In periods of market inactivity, the observability of prices and inputs may be reduced for certain instruments. This condition could cause an instrument to be reclassified from Level 1 to Level 2 or from Level 2 to Level 3.

RESULTS OF OPERATIONS

The following discussion summarizes the key factors our management believes are necessary for an understanding of our consolidated financial statements.

REVENUES

The components of our total revenues are described in the following table (amounts in thousands):

	2008	2007	2006	08/07 Increase/ (Decrease) % Change	07/06 Increase/ (Decrease) % Change
Product revenue	$4,196,907	$3,457,778	$2,887,409	21%	20%
Service revenue	366,091	326,326	282,118	12%	16%
Total product and service revenue	4,562,998	3,784,104	3,169,527	21%	19%
Research and development revenue	42,041	29,415	17,486	43%	68%
Total revenues	$4,605,039	$3,813,519	$3,187,013	21%	20%

Product Revenue

We derive product revenue from sales of:

- Genetic Diseases products, including Cerezyme for the treatment of Gaucher disease, Fabrazyme for the treatment of Fabry disease, Myozyme for the treatment of Pompe disease and Aldurazyme for the treatment of MPS I;
- Cardiometabolic and Renal products, including Renagel/Renvela for the reduction of elevated serum phosphorus levels in end-stage renal disease patients on hemodialysis, Hectorol for the treatment of secondary hyperparathyroidism in patients on dialysis and those with CKD, bulk sevelamer, and Thyrogen, which is an adjunctive diagnostic agent used in the follow-up treatment of patients with well-differentiated thyroid cancer and an adjunctive therapy in the ablation of remnant thyroid tissue;
- Biosurgery products, including orthopaedic products, such as Synvisc, and the Sepra line of products, such as Seprafilm;
- Hematologic Oncology products, including Campath for the treatment of B-CLL, and Clolar/Evoltra for the treatment of ALL after at least two prior regimens; and
- Other products, including:
  - transplant products for the treatment of immune-mediated diseases, primarily Thymoglobulin, which induces immunosuppression of certain types of cells responsible for organ rejection in transplant patients;
  - diagnostic products, including infectious disease and cholesterol testing products; and
  - bulk pharmaceuticals, including WelChol, which is a therapy for the reduction of LDL cholesterol in patients with primary hypercholesterolemia.

The following table sets forth our product revenue on a reporting segment basis:

	2008	2007	2006	08/07 Increase/ (Decrease) % Change	07/06 Increase/ (Decrease) % Change
	(Amounts in thousands)				
Genetic Diseases:					
Cerezyme	$1,238,977	$1,133,153	$1,007,036	9%	13%
Fabrazyme	494,260	424,284	359,274	16%	18%
Myozyme	296,176	200,728	59,238	48%	>100%
Aldurazyme	151,321	—	—	N/A	N/A
Other Genetic Diseases	45,595	8,314	410	>100%	>100%
Total Genetic Diseases	2,226,329	1,766,479	1,425,958	26%	24%
Cardiometabolic and Renal:					
Renagel/Renvela (including sales of bulk sevelamer)	677,729	602,670	515,119	12%	17%
Hectorol	128,153	115,708	93,360	11%	24%
Thyrogen	148,448	113,587	93,687	31%	21%
Other Cardiometabolic and Renal	1,595	52	—	>100%	N/A
Total Cardiometabolic and Renal	955,925	832,017	702,166	15%	18%
Biosurgery:					
Synvisc/Synvisc-One	263,094	242,319	233,860	9%	4%
Sepra products	133,663	104,318	85,338	28%	22%
Other Biosurgery	48,931	34,793	28,020	41%	24%
Total Biosurgery	445,688	381,430	347,218	17%	10%
Hematologic Oncology	101,217	68,947	48,077	47%	43%
Other product revenue	467,748	408,905	363,990	14%	12%
Total product revenue	$4,196,907	$3,457,778	$2,887,409	21%	20%

2008 As Compared to 2007

Genetic Diseases

Genetic Diseases product revenue increased 26% to $2.2 billion for 2008, as compared to 2007, due to continued growth in sales of Cerezyme, Fabrazyme and Myozyme, the inclusion of Aldurazyme sales in our results of operations beginning on January 1, 2008 as a result of our restructured relationship with BioMarin and BioMarin/Genzyme LLC, and the introduction of Elaprase in the Japanese market in the fourth quarter of 2007. Elaprase is an enzyme replacement therapy for the treatment of Hunter syndrome developed by Shire Human Genetic Therapies Inc. Genzyme has rights to commercialize the product in Japan and other Asia Pacific countries under an agreement with Shire. Genzyme currently has marketing approval for Elaprase in Japan, Australia and South Korea. Sales of Elaprase are included in other Genetic Diseases product revenue.

The 9% growth in sales of Cerezyme to $1.2 billion for 2008, as compared to 2007, is attributable to our continued identification of new Gaucher disease patients, particularly in international markets. We implemented a 3% price increase for Cerezyme in the United States in November 2007 and a 4% price increase for Cerezyme in the United States in August 2008. These price increases accounted for $12.2 million of the additional Cerezyme revenue for 2008, as compared to 2007. The strengthening of foreign currencies, primarily the Euro, against the U.S. dollar, positively impacted Cerezyme revenue by

$33.0 million in 2008, as compared to 2007. Although we expect Cerezyme to continue to be a substantial contributor to revenues in the future, it is a mature product and, as a result, we do not expect that the current new patient growth trend will continue.

Our results of operations are dependent on sales of Cerezyme and a reduction in revenue from sales of this product would adversely affect our results of operations. Sales of Cerezyme were approximately 27% of our total revenue in 2008, as compared to 30% in 2007. Revenue from Cerezyme would be impacted negatively if competitors developed alternative treatments for Gaucher disease which gained commercial acceptance, if our marketing activities are restricted, or if coverage, pricing or reimbursement is limited.

The 16% increase to $494.3 million for 2008 in sales of Fabrazyme, as compared to 2007, is primarily attributable to increased patient identification worldwide as Fabrazyme is introduced into new markets. We established a 3% price increase in the United States for Fabrazyme in November 2007 and a 4% increase for Fabrazyme in the United States in August 2008. These price increases accounted for $6.5 million of additional Fabrazyme revenue for 2008, as compared to 2007. The strengthening of foreign currencies, primarily the Euro, against the U.S. dollar, positively impacted Fabrazyme revenue by $16.6 million in 2008, as compared to 2007.

Sales of Myozyme were $296.2 million in 2008, as compared to $200.7 million in 2007. We launched Myozyme in the United States and Europe in April 2006 and in Canada in September 2006. We are introducing Myozyme on a country-by-country basis outside of the European Union and United States, as pricing and reimbursement approvals are obtained. Myozyme has received orphan drug designation in both the United States, which provides seven years of market exclusivity, and in the European Union, which provides ten years of market exclusivity. In June 2007, we launched the product in Japan after receipt of marketing and reimbursement approvals. The strengthening of foreign currencies, primarily the Euro, against the U.S. dollar, positively impacted Myozyme revenue by $7.0 million for 2008, as compared to 2007.

We currently manufacture Myozyme (alglucosidase alfa) in the United States using a 160L scale process at our manufacturing facility in Framingham, Massachusetts and using the 2000L scale process at our manufacturing facility in Allston, Massachusetts. We have begun Myozyme fill-finish at our manufacturing facility in Waterford, Ireland. We have approval to sell Myozyme manufactured using the 160L scale process in the United States and Myozyme produced using the 2000L scale process has been approved for sale in more than 40 countries outside the United States. The product produced using the 160L scale process is reserved for infants and children because the smaller scale produces a limited supply of FDA-approved product for the U.S. market.

In October 2007, we submitted a supplemental BLA to the FDA seeking approval of alglucosidase alfa produced using the 2000L scale process to help meet the demand for the product in the U.S. market. In April 2008, the FDA concluded that alglucosidase alfa produced using the 160L scale process and using the 2000L scale process should be classified as two different products because of analytical differences observed as part of the comparability efforts supporting the manufacturing change. As a result, the FDA required us to submit a separate BLA to gain U.S. approval for alglucosidase alfa produced using the 2000L scale process, which we submitted in May 2008. In October 2008, the Endocrinologic and Metabolic Drugs Advisory Committee affirmed by a vote of 16 to 1 that our Late Onset Treatment Study, or LOTS study, established the clinical effectiveness of alglucosidase alfa produced using the 2000L scale process for the treatment of patients with late-onset Pompe disease.

On February 27, 2009, we received a complete response letter from the FDA regarding our 2000L application. In the letter, the FDA outlines the items that need to be addressed before our application can be approved. These items include finalizing agreement with the FDA on the design of a post-approval verification study to demonstrate the clinical benefit of alglucosidase alfa produced using

the 2000L scale process, as required under the FDA's accelerated approval process, as well as a REMS for the product; finalizing label discussions with the FDA; and providing the FDA with information regarding specific chemistry, manufacturing and controls (CMC) questions and with a safety update. In addition, before the FDA will approve the product produced using the 2000L scale process, we need to resolve issues identified in a warning letter relating to our Allston manufacturing facility that we received along with the complete response letter. The warning letter is described in more detail in Part I, Item 1 of this report under the heading "Government Regulation." If the product produced using the 2000L scale process is approved by the FDA, it will be marketed as Lumizyme in the United States; the currently FDA-approved product produced using the 160L scale process will continue to be marketed as Myozyme.

The decision by the FDA to treat alglucosidase alfa produced using the 160L and 2000L scale processes as separate products negatively impacted our 2008 Myozyme revenue growth by approximately $45 million and costs related to Myozyme in 2008 were approximately $10 million more than originally expected because we continue to provide alglucosidase alfa produced using the 2000L scale process free of charge to approximately 170 patients in the United States through a clinical access program. We anticipate that the delay in FDA approval of alglucosidase alfa produced using the 2000L scale process will continue to negatively impact our 2009 earnings until this product is approved in the United States.

In February 2009, we received approval from the European Commission to market Myozyme produced at our manufacturing facility in Belgium using a 4000L scale process. During January and February 2009, there was widespread adult patient compliance with our request to adjust infusion schedules to preserve product supply for infants and children. With the approval of Myozyme produced using the 4000L scale process, adult patients that adjusted their infusion schedules will now be able to resume their regular schedules and new patients will be able to initiate therapy outside of the United States. Because of the approval we have received in the European Union, we expect Myozyme sales to accelerate starting in the second quarter of 2009 and to continue to increase throughout the second half of 2009. We expect Myozyme sales for the first quarter of 2009 to be similar to sales in the fourth quarter of 2008. We anticipate filing for U.S. marketing approval of product produced using the 4000L scale process in the first half of 2009.

In December 2008, we wrote off Myozyme inventory costs of $12.6 million related to terminated production runs during 2008 at our Belgium facility. Subsequent to December 31, 2008, additional terminated production runs at our Belgium facility were identified. Therefore, we anticipate writing off additional inventory valued at approximately $9 million in the first quarter of 2009.

Effective January 1, 2008, we, BioMarin and BioMarin/Genzyme LLC restructured our relationship regarding the manufacturing, marketing and sale of Aldurazyme and entered into several new agreements. BioMarin continues to manufacture Aldurazyme. We continue to purchase Aldurazyme exclusively from BioMarin and globally market and sell the product. Effective January 1, 2008, instead of sharing all costs and profits of Aldurazyme equally, we began to record all sales of Aldurazyme and began paying BioMarin a tiered payment ranging from approximately 39.5% to 50% of worldwide net product sales of Aldurazyme. Aldurazyme product revenue was $151.3 million for 2008. Prior to January 1, 2008, we were commercializing Aldurazyme on behalf of BioMarin/Genzyme LLC in the United States, Canada, the European Union, Latin America and the Asia-Pacific regions and continuing to launch Aldurazyme on a country-by-country basis as pricing and reimbursement approvals were obtained. BioMarin/Genzyme LLC's Aldurazyme product revenue recorded by BioMarin/Genzyme LLC was $123.7 million for 2007. The increase in Aldurazyme sales of $27.7 million for the year ended December 31, 2008, as compared to the same period of 2007, is primarily attributable to increased patient identification worldwide as Aldurazyme was introduced into new markets. We also implemented a 3% price increase for Aldurazyme in the United States in November 2007 and a 4% price increase for Aldurazyme in the United States in August 2008. These price increases accounted for

$1.0 million of additional Aldurazyme revenue for 2008, as compared to 2007. The strengthening of foreign currencies, primarily the Euro, against the U.S. dollar, positively impacted Aldurazyme revenue by $3.0 million for 2008, as compared to 2007.

Other Genetic Diseases product revenue increased in 2008, as compared to 2007 as sales of Elaprase were $45.6 million in 2008, as compared to $8.2 million in 2007. The increase is due to the launch of Elaprase in Japan in the fourth quarter of 2007 and the continued identification of new patients.

Cardiometabolic and Renal

On October 22, 2007, the FDA granted marketing approval for Renvela, a second generation buffered form of Renagel. In March 2008, we launched Renvela for dialysis patients in the United States. We are currently pursuing regulatory approvals for Renvela in Europe, Latin America and other international markets.

Sales of Renagel/Renvela, including sales of bulk sevelamer, increased 12% to $677.7 million for 2008, as compared to 2007, primarily due to increased end-user demand, which accounted for $13.9 million of the additional revenue and a Renagel price increase in the United States, which accounted for $24.4 million of the additional Renagel revenue. The strengthening of foreign currencies, primarily the Euro, against the U.S. dollar, positively impacted Renagel revenue by $13.0 million. Sales of Renagel/Renvela, including sales of bulk sevelamer, were 15% of our total revenues for 2008, as compared to 16% for the same period of 2007.

In October 2007, an FDA advisory committee voted to recommend that the agency extend the indications for phosphate binders to include patients with hyperphosphatemia who have not progressed to dialysis. In June 2008, we and two other companies submitted a position paper to the FDA regarding the expanded use of phosphate binders. We received written responses from the FDA and we are in the process of responding to the agency. There is no PDUFA date associated with this expanded label process; however, we anticipate that this indication will be added to Renvela's label in the United States by the middle of 2009. In addition, we have filed for approval of a powder form of Renvela to provide an additional option for physicians and patients that reduces pill burden and assists patients that have difficulty swallowing tablets. While Renagel will remain available for a period of time, our goal is to transition patients in the United States to Renvela by the fourth quarter of 2009. We also anticipate European approval of Renvela in the first half of 2009.

Sales of Hectorol increased 11% to $128.2 million for 2008, as compared to 2007, primarily due to Hectorol price increases in the third quarter of 2007 and in the second and fourth quarters of 2008, which accounted for $11.7 million of the additional revenue for 2008.

We expect sales of Renagel/Renvela and Hectorol to continue to increase. Adoption rates for Renagel/Renvela are expected to trend favorably as a result of the recent introduction of Renvela in the U.S. market, the potential label expansion to include hyperphosphatemic patients who are not on dialysis, and the introduction of a powder formulation expected in the first half of 2009. Adoption rates for Hectorol are expected to trend favorably as a result of growth in the CKD market and the anticipated launch of a 1 mg capsule form of Hectorol in the first half of 2009. In addition, we expect adoption rates to increase for both Renagel/Renvela and Hectorol as a result of our recent expansion and redeployment of our sales force for these products.

Renagel/Renvela and Hectorol compete with several other marketed products and our future sales may be impacted negatively by these products. Renagel, Renvela and Hectorol are also subjects of Abbreviated New Drug Applications, or ANDAs, containing "Paragraph IV certifications," which is the filing a generic drug manufacturer uses to challenge the applicability of one or more Orange Book-listed patents in order to seek U.S. regulatory approval to market a generic version of a drug prior to the expiration date of those patents.

If any of the ANDA filers or any other generic drug manufacturer were to receive approval to sell a generic version of Renagel or Hectorol, our revenues from those products would be adversely affected. In addition, our ability to continue to increase sales of Renagel/Renvela and Hectorol will depend on many other factors, including our ability to optimize dosing and improve patient compliance, the availability of reimbursement from third-party payors and the extent of coverage, including under the Medicare Part D program. Also, the accuracy of our estimates of fluctuations in the payor mix and our ability to effectively manage wholesaler inventories and the levels of compliance with the inventory management programs we implemented for Renagel/Renvela and Hectorol with our wholesalers could impact the revenue from our Cardiometabolic and Renal reporting segment that we record from period to period.

Sales of Thyrogen increased 31% to $148.4 million for 2008, as compared to 2007. We implemented a 9.7% price increase for Thyrogen in the United States in April 2007 and a 15% price increase for Thyrogen in the United States in March 2008. These price increases accounted for $11.7 million of additional Thyrogen revenue for 2008. In addition, worldwide volume growth, driven by a significant increase in the use of the product in thyroid remnant ablation procedures, positively impacted Thyrogen revenue by $24.2 million for 2008. The strengthening of foreign currencies, primarily the Euro, against the U.S. dollar, positively impacted Thyrogen revenue by $3.1 million for 2008, as compared to 2007.

Biosurgery

Biosurgery product revenue increased 17% to $445.7 million for 2008, as compared to 2007. Seprafilm revenue increased $27.7 million for the year ended December 31, 2008, as compared to the same period of 2007, primarily due to greater penetration of the product into the United States, Japanese and European markets and expanded use of Seprafilm in C-sections and gynecological procedures.

We received approval to market Synvisc-One, a single injection regimen, in the European Union in December 2007. In February 2009, we received marketing approval for Synvisc-One in the United States.

The combined revenues of Synvisc/Synvisc-One increased 9% to $263.1 million for 2008, as compared to 2007, primarily due to an expanded sales and marketing investment and the initiation of direct sales of the product in Latin America.

The strengthening of foreign currencies, primarily the Euro, against the U.S. dollar, positively impacted Biosurgery product revenue by $1.1 million for 2008, as compared to 2007.

Other Biosurgery product revenue increased 41% to $48.9 million for 2008, as compared to 2007 due primarily to $9.6 million of revenue for 2008, related to a dermal filler we are developing with and manufacturing for sale to Mentor Corporation for which there was no comparable amount in 2007.

Hematologic Oncology

Hematologic Oncology product revenue increased 47% to $101.2 million for 2008, as compared to 2007, primarily due to the addition of sales of clofarabine outside of North America, which rights we acquired in connection with our acquisition of Bioenvision in October 2007. Clofarabine, which is approved for the treatment of relapsed or refractory pediatric ALL, is marketed under the name Clolar in North and South America and as Evoltra elsewhere in the world.

We are developing the intravenous formulation of clofarabine for new indications, including first-line and relapsed or refractory adult AML. In November 2008, we filed a supplemental New Drug Application with the FDA for the use of Clolar to treat previously untreated adults age 60 years or older with AML who have at least one unfavorable prognostic factor. FDA action is expected by the

middle of 2009. A similar submission in Europe is expected during the first half of 2009. We are also developing an oral formulation of clofarabine and have initiated clinical trials for the treatment of myelodysplastic syndrome, or MDS. Clofarabine has been granted orphan drug status for the treatment of ALL and AML in both the United States and the European Union.

Other Product Revenue

Other product revenue increased 14% to $467.7 million in 2008, as compared to 2007, primarily due to:

- a 10% increase in sales of transplant products to $192.2 million for 2008, due to a $13.6 million increase for 2008 in Thymoglobulin revenue as a result of an 11% increase in the worldwide average sales price of Thymoglobulin. In addition, sales of Thymoglobulin increased $8.5 million for 2008, as compared to 2007, due to an increase in sales volume resulting from increased utilization of Thymoglobulin in transplant procedures worldwide. The strengthening of foreign currencies, primarily the Euro, against the U.S. dollar, positively impacted transplant product revenue by $3.5 million for 2008, as compared to 2007.

  In 2008 we recalled lots of Thymoglobulin that no longer met our specifications for product appearance. The value of the product returned as a result of these recalls was not significant. In July 2008, we wrote off one lot of Thymoglobulin, valued at approximately $5 million, due to a filter failure at our fill-finish facility in Waterford, Ireland. We will continue to closely monitor our Thymoglobulin inventory levels and have increased production in an effort to maintain adequate supply levels. Construction is underway on a new manufacturing plant for Thymoglobulin in Lyon, France to support the anticipated long-term demand for the product. Regulatory approvals of the facility are expected beginning in 2010, and production at this plant is expected to commence in 2011.

- a 25% increase in sales of diagnostic products to $156.9 million, due to increased demand and to the acquisition of certain diagnostic assets from DCL in December 2007; and

- a 17% increase in sales of WelChol to $67.7 million, due to bulk sales and royalties earned as a result of increased demand from our U.S. marketing partner, Sankyo Pharma, Inc., or Sankyo.

2007 As Compared to 2006

Genetic Diseases

Genetic Diseases product revenue increased 24% to $1.8 billion for 2007, as compared to 2006, due to continued growth in sales of Cerezyme, Fabrazyme and to the launch of Myozyme in the European Union, the United States and Canada in 2006.

The 13% growth in sales of Cerezyme to $1.1 billion for 2007, as compared to 2006, is attributable to our continued identification of new Gaucher disease patients, particularly in international markets. Through October 2007, our price for Cerezyme remained consistent from period to period. Effective November 1, 2007, we implemented a 3% price increase in the United States for Cerezyme. The strengthening of foreign currencies, primarily the Euro and British pound sterling, against the U.S. dollar positively impacted Cerezyme revenue by $38.5 million in 2007, as compared to 2006.

The 18% increase to $424.3 million for 2007 in sales of Fabrazyme, as compared to 2006, is primarily attributable to increased patient identification worldwide as Fabrazyme is introduced into new markets. We established a 3% price increase in the United States for Fabrazyme in November 2007 which did not have a significant impact on Fabrazyme revenue in 2007 as compared to 2006. The strengthening of foreign currencies, primarily the Euro and British pound sterling, against the U.S. dollar positively impacted Fabrazyme revenue by $13.0 million in 2007, as compared to 2006.

Sales of Myozyme were $200.7 million in 2007, as compared to $59.2 million in 2006. We launched Myozyme in the United States and Europe in April 2006 and in Canada in September 2006. In April 2007, Myozyme was approved for commercial sale in Japan and in June 2007 we launched the product after we received reimbursement approval. The 9% increase in the Euro against the U.S. dollar in 2007, as compared to 2006, positively impacted Myozyme revenue by $4.3 million.

Cardiometabolic and Renal

Sales of Renagel, including sales of bulk sevelamer, increased 17% to $602.7 million for 2007, as compared to 2006. Renagel price increases in the United States in December 2006 and April 2007 accounted for $36.4 million of the additional revenue, while increased end-user demand worldwide accounted for $51.2 million of additional revenue. The strengthening of foreign currencies, primarily the Euro and British pound sterling, against the U.S. dollar in 2007, as compared to 2006, positively impacted Renagel revenue by $16.7 million.

Sales of Hectorol increased 24% to $115.7 million for 2007, as compared to $93.4 million for 2006, primarily due to price increases for the 0.5 and 2.5 microgram tablets in July and December 2006 and a price increase for Hectorol IV in April 2006, as well as higher end-user demand.

Sales of Thyrogen increased 21% to $113.6 million for 2007, as compared to 2006. A Thyrogen price increase of approximately 10% in the United States in April 2007 accounted for $4.3 million of the additional revenue while worldwide volume growth impacted sales by $15.6 million. The strengthening of foreign currencies, primarily the Euro and British pound sterling, against the U.S. dollar positively impacted Thyrogen revenue by $3.2 million in 2007, as compared to 2006.

Biosurgery

Biosurgery product revenue increased 10% to $381.4 million in 2007, as compared to 2006. Seprafilm revenue increased $20.2 million in 2007, as compared to 2006, primarily due to greater penetration into the United States, Japanese and European markets.

Synvisc sales increased $8.5 million in 2007, as compared to 2006, primarily due to a $5.4 million increase in U.S. volume.

Hematologic Oncology

Hematologic Oncology product revenue increased 43% to $68.9 million in 2007, as compared to 2006, primarily due to a 39% increase to $64.9 million in the combined sales of Campath and Clolar.

In September 2007, the FDA approved expanded labeling for Campath to include first-line treatment of patients with B-CLL, significantly increasing the number of patients eligible to receive the product. In December 2007 we received European approval for an expanded indication as well.

Other Product Revenue

Other product revenue increased 12% to $408.9 million in 2007, as compared to 2006, primarily due to

- a 12% increase in transplant products to $174.8 million for 2007, as compared to 2006. The increase is primarily due to a $18.0 million increase in sales of Thymoglobulin as a result of its increased utilization in transplant procedures worldwide;
- a 9% increase in sales of diagnostic products to $125.8 million, due to increased demand; and
- a 44% increase in sales of WelChol to $58.0 million, due to bulk sales and royalties earned as a result of increased demand from our U.S. marketing partner, Sankyo Pharma, Inc., or Sankyo.

Service Revenue

We derive service revenues primarily from the following sources:

- sales of MACI, a proprietary cell therapy product for cartilage repair, in Europe and Australia, Carticel for the treatment of cartilage damage, and Epicel for the treatment of severe burns, all of which are included in our Biosurgery reporting segment; and
- reproductive/genetics and pathology/oncology diagnostic testing services, which are included in our other service revenue.

The following table sets forth our service revenue on a segment basis (amounts in thousands):

	2008	2007	2006	08/07 Increase/ (Decrease) % Change	07/06 Increase/ (Decrease) % Change
Genetic Diseases	$ 363	$ —	$ —	N/A	N/A
Cardiometabolic and Renal	58	51	—	14%	N/A
Biosurgery	42,767	39,880	39,458	7%	1%
Hematologic Oncology	1,682	980	1,102	72%	(11)%
Other	321,221	285,415	241,558	13%	18%
Total service revenue	$366,091	$326,326	$282,118	12%	16%

2008 As Compared to 2007

Service revenue attributable to our Biosurgery reporting segment increased 7% to $42.8 million for 2008, as compared to 2007. The increase is primarily due to higher demand for MACI, and a 6.5% price increase for Carticel in July 2008.

Other service revenue increased 13% to $321.2 million for 2008, as compared to 2007. The increase was primarily attributable to continued growth in sales of genetic testing and prenatal screening services as well as growth in demand for certain testing services for patients diagnosed with cancer.

The strengthening of foreign currencies against the U.S. dollar for 2008, as compared to 2007, did not have a significant impact on service revenue.

2007 As Compared to 2006

Service revenue attributable to our Biosurgery reporting segment increased 1% to $39.9 million for 2007, as compared to 2006. The increase is primarily due to higher demand for Carticel, offset, in part, by a decline in sales of MACI.

Service revenue attributable to our other services increased 18% to $285.4 million for 2007, as compared to 2006. The increase was primarily attributable to continued growth in sales of genetic testing services as well as growth in the prenatal screening and diagnosis market.

International Product and Service Revenue

A substantial portion of our revenue is generated outside of the United States. The following table provides information regarding the change in international product and service revenue as a percentage of total product and service revenue during the periods presented (amounts in thousands):

	2008	2007	2006	08/07 Increase/ (Decrease) % Change	07/06 Increase/ (Decrease) % Change
International product and service revenue . . .	2,344,093	1,815,160	1,455,795	29%	25%
% of total product and service revenue	51%	48%	46%		

2008 As Compared to 2007

The 29% increase to $2.3 billion for 2008 in international product and service revenue, as compared to 2007, is primarily due to a $278.1 million increase in the combined international sales of Renagel, Cerezyme, Fabrazyme and Myozyme, primarily due to an increase in the number of patients using these products in the European Union, South America and the Asia-Pacific rim. In addition, in 2008 we began to record worldwide Aldurazyme revenue and revenue for clofarabine sold outside North America. Revenue generated outside the United States for Aldurazyme was $121.1 million 2008, which had been recorded as joint venture revenue by BioMarin/Genzyme LLC in 2007. Revenue generated outside the United States for Evoltra was $25.8 million for 2008. There were no comparable amounts prior to our acquisition of Bioenvision in October 2007.

The strengthening of foreign currencies, primarily the Euro, against the U.S. dollar, positively impacted total product and service revenue by $89.7 million in 2008, as compared to 2007.

International product and service revenue as a percentage of total product and service revenue increased due primarily to the addition of revenue generated outside the United States for Aldurazyme and outside North America for clofarabine as well as the strengthening of foreign currencies against the U.S. dollar, which positively impacted our total international revenue.

2007 As Compared to 2006

The 25% increase to $1.8 billion for 2007 in international product and service revenue, as compared to 2006, is primarily due to a $311.4 million increase in the combined international sales of Renagel, Cerezyme, Fabrazyme and Myozyme primarily due to an increase in the number of patients using these products in the European Union, South America and the Asia-Pacific rim.

The strengthening of foreign currencies, primarily the Euro and British pound sterling, against the U.S. dollar positively impacted total product and service revenue by $90.8 million in 2007, as compared to 2006.

Research and Development Revenue

The following table sets forth our research and development revenue on a segment basis (amounts in thousands):

	2008	2007	2006	08/07 Increase/ (Decrease) % Change	07/06 Increase/ (Decrease) % Change
Genetic Diseases	$ —	$ 1,059	$ 1,000	N/A	6%
Cardiometabolic and Renal	200	1,200	2,142	(83)%	(44)%
Biosurgery	2,645	5,337	893	(50)%	>100%
Hematologic Oncology	14,439	7,006	8,097	>100%	(13)%
Other	23,524	13,199	4,982	78%	>100%
Corporate	1,233	1,614	372	(24)%	>100%
Total research and development revenue	$42,041	$29,415	$17,486	43%	68%

2008 As Compared to 2007

Total research and development revenue increased $12.6 million in 2008, as compared to 2007, primarily due to increases in revenue recognized by our Hematologic Oncology reporting segment and other research and development revenue. The increase in Hematologic Oncology research and development revenue primarily represents a $6.0 million payment received in December 2008 from Shire plc related to the vesting of an assignment by AnorMED of certain product rights to Shire. This was the last milestone payment due from Shire related to these product rights. Mozobil was granted approval by the FDA in December 2008. Other research and development revenue increased primarily due to our increase in spending for the development of alemtuzumab under our collaboration with Bayer, and Bayer's reimbursement of a portion of these development expenses particularly in the multiple sclerosis development program.

2007 As Compared to 2006

Total research and development revenue increased $11.9 million in 2007, as compared to 2006, primarily due to increases in revenue recognized by our Biosurgery reporting segment and other research and development revenue. Biosurgery research and development revenue primarily represents work related to dermal filler products as a result of new contracts entered into with Mentor Corporation in September 2006 and February 2007. Other research and development revenue in 2007 includes the reimbursement of research and development expenses related to alemtuzumab for the treatment of multiple sclerosis, for which there are no similar amounts in 2006 and revenue related to our pharmaceuticals and cardiovascular businesses.

MARGINS

The components of our total margins are described in the following table (amounts in thousands):

	2008	2007	2006	08/07 Increase/ (Decrease) % Change	07/06 Increase/ (Decrease) % Change
Product margin	$3,283,640	$2,742,274	$2,351,021	20%	17%
% of total product revenue	78%	79%	81%		
Service margin	$ 130,796	$ 114,500	$ 82,835	14%	38%
% of total service revenue	36%	35%	29%		
Total product and service gross margin	$3,414,436	$2,856,774	$2,433,856	20%	17%
% of total product and service revenue	75%	75%	77%		

Gross Profit and Product Margin

2008 As Compared to 2007

Our overall gross profit increased $541.4 million, or 20%, in 2008, as compared to 2007. This is primarily due to:

- increased sales volume for Cerezyme, Fabrazyme, Myozyme and Elaprase;
- increased unit volumes and price increases for Renagel and Hectorol;
- the addition of sales of Renvela, which was launched for dialysis patients in the United States in March 2008;
- increased sales volume for Thyrogen;
- increased sales for Seprafilm;
- improved margin for Hylaform due to milestone payments received in 2008 for which there were no comparable amounts received in 2007;
- higher demand for Campath worldwide, and an increase in worldwide sales of Clolar/Evoltra due to our acquisition of Bioenvision in October 2007; and
- improved margin for diagnostic products due to our acquisition of diagnostic assets from DCL in December 2007.

Our gross margin in the fourth quarter of 2008 was impacted by the favorable effect of foreign exchange rates in our manufacturing sites outside the United States as well as by the timing of inventory produced in prior periods and sold in the fourth quarter.

Total product margin as a percentage of product revenue decreased for 2008, as compared to 2007, due to the increase in sales of Myozyme and Elaprase, the addition of Aldurazyme to the results, all of which have lower than average margins, to higher unit costs for Cerezyme and Fabrazyme and to the write off of Myozyme inventory costs of $12.6 million related to terminated production runs during 2008 at our Belgium facility. These decreases in product margin as a percentage of product revenue were partially offset by a decrease in manufacturing-related charges recorded in 2008, as compared to 2007.

For purposes of this discussion, the amortization of product related intangible assets is included in amortization expense and, as a result, is excluded from cost of products sold and the determination of product margins described above.

2007 As Compared to 2006

Our overall gross profit increased $391.3 million, or 17%, in 2007, as compared to 2006. This is primarily due to:

- increased sales volume for Cerezyme and Fabrazyme;
- increased sales volume for Myozyme. We launched Myozyme in the European Union, the United States and Canada in 2006;
- price increases, increased unit volume and increased efficiency at our global manufacturing facilities for Hectorol and Renagel;
- increased sales volume for Thyrogen;
- increased sales for Seprafilm; and
- increased global sales of Campath and increased U.S. sales of Clolar.

These increases in product margin were partially offset by a $5.3 million increase in stock-based compensation expenses charged to cost of goods sold in 2007, as compared to 2006. In 2006, we began amortizing stock-based compensation expense capitalized to inventory based on margin turns.

Total product margin as a percentage of total product revenue in 2007 decreased as compared to 2006 due to the change in product mix, principally the increase of sales of the lower margin Myozyme, and $20.9 million of manufacturing-related charges recorded in 2007 to write off and reserve for certain lots of our Thymoglobulin inventory which did not meet product specifications for saleable product.

The amortization of product related intangible assets is included in amortization expense and, as a result, is excluded from cost of products sold and the determination of product margins.

Service Margin

2008 As Compared to 2007

Our overall service margin increased $130.8 million, or 14%, in 2008 as compared to 2007. The increases were primarily attributable to increases in revenue from our genetic testing and prenatal screening services and the increase in demand for certain testing services for patients diagnosed with cancer.

Total service margin as a percent of total service revenue increased by 1% for 2008, as compared to 2007, due to an increase in MACI and Carticel revenue and genetic testing revenue.

2007 As Compared to 2006

Our overall service margin increased $31.7 million, or 38%, in 2007 as compared to 2006. This is primarily due to the increases in revenue recorded from our DNA and cancer testing services as well as the prenatal screening and diagnosis market.

Total service margin as a percent of total service revenue increased in 2007, as compared to 2006, primarily due to increased productivity and efficiencies in lab operations for our Genetics business unit.

OPERATING EXPENSES

Selling, General and Administrative Expenses

The following table provides information regarding the change in SG&A during the periods presented (amounts in thousands):

	2008	2007	2006	08/07 Increase/ (Decrease) % Change	07/06 Increase/ (Decrease) % Change
Selling, general and administrative expenses	$1,338,190	$1,187,184	$1,010,400	13%	17%
% of total revenue	29%	31%	32%		

2008 As Compared to 2007

SG&A increased $151.0 million in 2008, as compared to 2007, primarily due to spending increases of:

- $46.3 million for Genetic Diseases, primarily due to costs incurred related to Aldurazyme, which were recorded by BioMarin/Genzyme LLC in the same period of 2007, combined with expanded marketing activities for Cerezyme, Fabrazyme and Myozyme;
- $31.2 million for Cardiometabolic and Renal, primarily due to sales force expansion and restructuring to support the Renvela launch;
- $20.3 million for Biosurgery, primarily due to the expansion of our Sepra sales force combined with additional marketing activities;
- $17.0 million for Hematologic Oncology, primarily due to the inclusion of Bioenvision activities and increased domestic marketing expenses for Clolar and our investment in international programs, personnel and to costs related to the preparation of the launch of Mozobil;
- $36.1 million for Other, primarily due to personnel additions in our genetics business unit and continued Cholestagel commercial infrastructure build out, and to increased spending associated with our acquisition of diagnostic assets from DCL in December 2007;
- an increase of $10.6 million due to the strengthening of foreign currencies against the U.S. dollar, primarily the Euro; and
- an increase of $24.1 million of realized unhedged transactional foreign currency loss.

These increases were partially offset by a decrease in SG&A for Corporate because we recorded a $64.0 million charge in June 2007 for the settlement of the litigation related to the consolidation of our former tracking stocks for which there was no comparable amount recorded in 2008.

2007 As Compared to 2006

SG&A increased $176.8 million in 2007, as compared to 2006, primarily due to spending increases of:

- $53.7 million for Genetic Diseases, primarily due to costs incurred related to Myozyme launch activities in additional countries during 2007;
- $37.8 million for Cardiometabolic and Renal, primarily due to continued support of the growth in Cardiometabolic and Renal international business operations;
- $20.3 million for Biosurgery, primarily due to sales force expansion;

- $8.7 million for Hematologic Oncology, primarily due to the inclusion of Bioenvision activities after the acquisition, and expenses incurred for pre-launch activities for Mozobil;
- $19.2 million for Other, primarily due to increase in spending on additional personnel to support the expansion of Thymoglobulin into new markets, and to personnel additions in our genetics business unit; and
- $37.1 million for Corporate SG&A primarily due to a charge of $64.0 million recorded in June 2007 related to the final court approved settlement agreement of the litigation related to the consolidation of our former tracking stocks, and increased spending for information technology, legal expenses, employee recruiting and temporary help.

These increases were partially offset in 2007 by decreases of:

- $6.1 million for Other due to an adjustment in our genetics business unit in June 2007 to accruals related to our acquisition of the Physician Services and Analytical Services business units of IMPATH Inc. in May 2004; and
- $15.6 million attributable to a decrease in stock-based compensation expenses charged to SG&A. In May 2007, in connection with a general grant to employees, we issued a combination of stock options and RSUs whereas in prior years we had only issued stock options for the general grant to employees. Fewer RSUs are generally awarded as compared to historical stock option grants.

Research and Development Expenses

The following table provides information regarding the change in research and development expense during the periods presented (amounts in thousands):

	2008	2007	2006	08/07 Increase/ (Decrease) % Change	07/06 Increase/ (Decrease) % Change
Research and development expenses	$1,308,330	$737,685	$649,951	77%	13%
% of total revenue	28%	19%	20%		

2008 As Compared to 2007

Research and development expenses increased $570.6 million in 2008, as compared to 2007, primarily due to:

- spending increases of $149.6 million on certain Genetic Diseases research and development programs, including a $100.0 million nonrefundable upfront fee paid to PTC related to our collaboration to develop and commercialize ataluren, and the addition of Aldurazyme expenses as a result of the restructuring of our relationship with BioMarin/Genzyme LLC;
- spending increases of $244.9 million for Cardiometabolic and Renal research and development programs, consisting of $175.0 million and $69.9 million recorded in February 2008 in license fees paid to Isis for exclusive, worldwide rights to mipomersen;
- spending increases of $21.7 million on Hematologic Oncology research and development programs, primarily on Mozobil, due to NDA filing activity and pre-launch activity and the addition of Bioenvision expenses for the development of Clolar for adult AML;
- spending increases of $180.4 million on research and development programs included under the category "Other," including $130.0 million in nonrefundable upfront license fees paid to Osiris related to our collaboration to develop and commercialize Prochymal and Chondrogen and the development of alemtuzumab for the treatment of multiple sclerosis ; and

- increases of $8.7 million due to the strengthening of foreign currencies against the U.S. dollar, primarily the Euro.

These increases were partially offset by spending decreases in 2008 of:

- $34.7 million on certain Genetic Diseases research and development programs, including a $25.0 million upfront payment to Ceregene in June 2007 in connection with a collaboration agreement for the development and commercialization of CERE-120 for which there was no comparable amount paid in 2008, and an $8.4 million decrease in spending due to the termination in February 2007 of our joint venture with Dyax Corp., or Dyax for the development of DX-88 for the treatment of hereditary angioedema, or HAE; and
- $20.8 million on our Cardiometabolic and Renal research and development programs due to the termination of our late stage clinical trial for tolevamer and a decrease in clinical expenses related to Hectorol.

2007 As Compared to 2006

Research and development expenses increased $87.7 million in 2007, as compared to 2006, primarily due to:

- an increase of $47.5 million in spending on certain Genetic Diseases research and development programs, including a $25.0 million up-front payment paid to Ceregene in June 2007;
- an increase of $29.3 million in spending on Hematologic Oncology primarily on research and development expenses related to Mozobil development and NDA submission; and
- an increase of $37.6 million in spending on Other research and development programs, primarily on alemtuzumab for the treatment of multiple sclerosis and Clolar for adult AML.

These increases were partially offset by decreases of:

- $11.0 million in spending on certain Genetic Diseases research and development programs, including a $10.9 million decrease in spending due to the termination in February 2007 of our joint venture with Dyax for development of DX-88 for the treatment of HAE; and
- $7.7 million in spending on our Cardiometabolic and Renal research and development programs due to the termination of our collaboration with RenaMed Biologics, Inc. in February 2007;
- $15.2 million for our Corporate research and development programs, primarily due to decreases of $7.1 million in stock-based compensation expenses attributable to the issuance of a combination of stock options and RSUs in connection with a general grant to employees in May 2007. In prior years, only stock options were awarded in the general grant to employees. Fewer RSUs are generally awarded as compared to historical stock option grants.

Amortization of Intangibles

The following table provides information regarding the change in amortization of intangibles expense during the periods presented (amounts in thousands):

	2008	2007	2006	08/07 Increase/ (Decrease) % Change	07/06 Increase/ (Decrease) % Change
Amortization of intangibles	$226,442	$201,105	$209,355	13%	(4)%
% of total revenue	5%	5%	7%		

2008 As Compared to 2007

Amortization of intangibles expense increased $25.3 million for 2008, as compared to 2007, primarily due to the acquisition of technology in connection with our acquisition of Bioenvision in October 2007, and the acquisition of customer lists and trademarks in connection with our acquisition of diagnostic assets from DCL in December 2007.

2007 As Compared to 2006

Amortization of intangibles expense decreased $8.3 million for 2007, as compared to 2006, primarily due to customer lists related to our acquisition of Bone Care in July 2005, which became fully amortized in the first quarter of 2007.

Purchase of In-Process Research and Development

In connection with five of our acquisitions we completed between January 1, 2004 and December 31, 2008, we have acquired various IPR&D projects. The following table sets forth IPR&D projects for companies and certain assets acquired since 2004 (amounts in millions):

Company/Assets Acquired	Purchase Price	IPR&D	Programs Acquired	Discount Rate Used in Estimating Cash Flows	Year of Expected Launch	Estimated Cost to Complete
Bioenvision (2007) .	$ 349.9	$125.5	Evoltra (clofarabine)(1,2)	17%	2009-2013	$ 41
AnorMED (2006) .	$ 589.2	$526.8	Mozobil (stem cell transplant)(3)	15%	2009-2014	$125
		26.1	AMD070 (HIV)(4)	15%	—	$ —
		$552.9				
Avigen (2005) . . .	$ 12.0	$ 7.0	AV201 (Parkinson's disease)	N/A	2016	$100
Verigen (2005) . . .	$ 12.7	$ 9.5	MACI (cartilage repair)	24%	2012-2014	$ 30
ILEX Oncology (2004)	$1,080.3	$ 96.9	Campath (alemtuzumab)(5)	11%	2012	$333
		113.4	Clolar (clofarabine)(2)	12%	2009-2012	$110
		$210.3				

(1) IPR&D charges totaled $125.5 million related to the acquisition of Bioenvision, of which $106.4 million was charged to IPR&D and $19.1 million was charged to equity in income of equity method investments.

(2) Clofarabine, which is approved for the treatment of relapsed and refractory pediatric ALL, is marketed under the name Clolar in North and South America and as Evoltra elsewhere in the world. The IPR&D projects for clofarabine are related to the development of clofarabine for the treatment of other medical issues.

(3) Mozobil received marketing approval in the United States in December 2008 and our marketing application in Europe is pending.

(4) Year of expected launch and estimated cost to complete data is not provided for AMD070 at this time because we are assessing our future plans for this program.

(5) Campath is currently marketed for the treatment of B-CLL. The IPR&D projects for Campath are related to the development of Campath for the treatment of other medical issues.

Charge for Impaired Goodwill

We are required to perform impairment tests related to our goodwill under FAS 142 annually and whenever events or changes in circumstances suggest that the carrying value of an asset may not be recoverable. For 2008 and 2007, we completed the required annual impairment tests for our $1.4 billion

of goodwill that had been recorded as of September 30, 2008 and $1.3 billion of goodwill that had been recorded as of September 30, 2007 and determined that no impairment charge was required. For 2006, we completed the required annual impairment tests for our $1.5 billion of goodwill that had been recorded as of September 30, 2006 and determined that the $219.2 million of goodwill assigned to our Genetics reporting unit was fully impaired. We discuss our assessment of goodwill for potential impairment under the heading "Critical Accounting Policies—Asset Impairments—Impairment of Goodwill" included in this report.

OTHER INCOME AND EXPENSES

	2008	2007	2006	08/07 Increase/ (Decrease) % Change	07/06 Increase/ (Decrease) % Change
	(Amounts in thousands)				
Equity in income of equity method investments	$ 201	$ 7,398	$ 15,705	(97)%	(53)%
Minority interest	2,217	3,932	10,418	(44)%	(62)%
Gains (losses) on investments in equity securities, net	(3,340)	13,067	73,230	>(100)%	(82)%
Other	(1,861)	(637)	(2,045)	>100%	(69)%
Investment income	51,260	70,196	56,001	(27)%	25%
Interest expense	(4,418)	(12,147)	(15,478)	(64)%	(22)%
Total other income	$44,059	$ 81,809	$137,831	(46)%	(41)%

2008 As Compared to 2007

Equity in Income of Equity Method Investments

Under this caption, we recorded our portion of the results of our joint venture with Medtronic Inc., and our investment in Peptimmune, Inc., or Peptimmune, and for 2007, our portion of the results of BioMarin/Genzyme LLC. Also under this caption, for the period from July 10, 2007 through September 30, 2007, we recorded our portion of the results of our investment in Bioenvision, which we subsequently purchased in October 2007.

Equity in income of equity method investments decreased by 97% to $0.2 million in 2008, as compared to 2007 primarily due to $21.1 million of charges in 2007 related to our investment in Bioenvision common stock, including a $19.1 million charge for IPR&D, representing our proportionate share of the fair value of the IPR&D programs of Bioenvision for which there are no comparable amounts in 2008 because we completed our acquisition of Bioenvision in October 2007. These charges were offset in part by our portion of the net income of BioMarin/Genzyme LLC of $30.1 million in 2007 for which there was no comparable amount in 2008 since, beginning January 1, 2008, as a result of our restructured relationship with BioMarin, we no longer account for BioMarin/Genzyme LLC using the equity method of accounting.

Minority Interest

As a result of the restructuring of our relationship with BioMarin/Genzyme LLC, effective January 1, 2008, in accordance with the provisions of FIN 46R, "Consolidation of Variable Interest Entities," we began consolidating the results of BioMarin/Genzyme LLC. We recorded BioMarin's portion of this joint venture's income in 2008 as minority interest in our consolidated statements of operations.

Prior to February 20, 2007, as a result of our application of FIN 46R, we consolidated the results of Dyax-Genzyme LLC and Excigen Inc. On February 20, 2007, we agreed with Dyax to terminate our

participation and interest in Dyax-Genzyme LLC. We recorded Dyax's portion of this joint venture's losses as minority interest in our consolidated statements of operations through February 20, 2007. The results of Excigen were not significant.

Gains (Losses) on Investments in Equity Securities, net

We recorded the following realized gains (losses) on investments in equity securities, net of charges for impaired investments, during the periods presented (amounts in thousands):

	2008	2007
Gross gains (losses) on investments in equity securities:		
Sirtris	$ 10,304	$ —
THP	1,063	10,848
Other	1,892	2,219
Total gains on investments in equity securities	13,259	13,067
Less: charges for impaired investments	(16,599)	—
Gains (losses) on investments in equity securities, net	$ (3,340)	$13,067

In 2008, we recorded a $10.3 million gain resulting from the liquidation of our investment in the common stock of Sirtris Pharmaceuticals, Inc. for net cash proceeds of $14.8 million.

In 2007, we purchased an exclusive option to acquire equity of a private company for $10.0 million in cash. We terminated the option agreement prior to the deadline for exercise and as a result, we recorded a charge of $10.0 million in 2008 to write off the purchase price of the option. We also recorded a charge of $6.6 million in 2008 to write down our investments in certain equity securities and venture capital funds to fair value as the unrealized losses were determined to be other than temporary.

In 2007, we recorded a $10.8 million gain in connection with the sale of our entire investment in the capital stock of THP, which had a zero cost basis, for net cash proceeds of $10.8 million.

At December 31, 2008, our stockholders' equity includes $25.8 million of unrealized gains and $0.3 million of unrealized losses related to our strategic investments in equity securities.

Investment Income

Our investment income decreased 27% to $51.3 million for 2008, as compared to $70.2 million for 2007, primarily due to a decrease in the average portfolio yield in the United States and lower average cash balances outside the United States, offset in part by higher average U.S. cash balances.

Interest Expense

Our interest expense decreased 64% to $4.4 million for 2008, as compared to $12.1 million for 2007, primarily due to a $4.5 million increase in capitalized interest, which resulted in a decrease in interest expense. Additionally, there was a $2.2 million decrease in interest expense in 2008 related to asset retirement obligations and a $1.0 million decrease in interest expense in 2008 due to the redemption of our $690.0 million in principal of 1.25% convertible senior notes in December 2008.

2007 As Compared to 2006

Equity in Income of Equity Method Investments

Under this caption, in 2007 and 2006 we recorded our portion of the results of our joint ventures with BioMarin and Medtronic, and our investments in Peptimmune, and in 2007, our initial investment in the common stock of Bioenvision.

Equity in income of equity method investments decreased by 53% to $7.4 million in 2007, as compared to 2006, primarily due to charges totaling $21.1 million in 2007 related to our initial investment in the common stock of Bioenvision, which was accounted for under the equity method of accounting for the period from July 1, 2007 through October 22, 2007. These charges were offset, in part, by an $11.6 million increase in our portion of the net income of BioMarin/Genzyme LLC.

Minority Interest

Prior to February 20, 2007, as a result of our application of FIN 46R, we consolidated the results of Dyax-Genzyme LLC and Excigen Inc. In connection with our termination of our joint venture with Dyax on February 20, 2007, we made a capital contribution of approximately $17 million in cash to Dyax-Genzyme LLC and Dyax purchased our interest in the joint venture for 4.4 million shares of Dyax common stock, valued at $16.9 million, based on the closing price of Dyax common stock on February 23, 2007. We recorded Dyax's portion of this joint venture's losses as minority interest in our consolidated statements of operations through February 20, 2007. The results of Excigen were not significant.

Gains (Losses) on Investments in Equity Securities, net

We recorded the following realized gains on investments in equity securities, net of charges for impaired investments, during the periods presented (amounts in thousands):

	2007	2006
Gross gains on investments in equity securities:		
THP	$10,848	$ —
CAT	—	69,359
BioMarin	—	6,416
Other	2,219	2,848
Total gains on investments in equity securities	13,067	78,623
Less: charges for impaired investments	—	(5,393)
Gains (losses) on investments in equity securities, net	$13,067	$73,230

In March 2007, we recorded a $10.8 million gain on the sale of our entire investment in the common stock of THP, which had a zero cost basis.

In 2006 we recorded a $69.4 million gain on the sale of our entire investment in Cambridge Antibody Technology Group plc, or CAT.

Investment Income

Our investment income increased 25% to $70.2 million for 2007, as compared to $56.0 million for 2006, primarily due to an increase in the average portfolio yield and higher average cash balances.

Interest Expense

Our interest expense decreased 22% to $12.1 million for 2007, as compared to $15.5 million for 2006, primarily due to a $5.3 million increase in capitalized interest, which resulted in a decrease in interest expense. This decrease was offset in part by a $3.1 million increase in interest expense in 2007 related to asset retirement obligations, for which there was no similar amount in 2006.

(Provision for) Benefit from Income Taxes

	2008	2007	2006	08/07 Increase/ (Decrease) % Change	07/06 Increase/ (Decrease) % Change
	(Amounts in thousands)				
(Provision for) benefit from income taxes	$(204,457)	$(255,481)	$35,881	(20)%	>(100)%
Effective tax rate	33%	35%	(68)%		

Our provisions for income taxes were at rates other than the U.S. federal statutory tax rate for the following reasons:

	For the Years Ended December 31,		
	2008	2007	2006
Tax provision at U.S. statutory rate	35.0%	35.0%	(35.0)%
State taxes, net	1.5	0.7	(1.7)
Export sales benefits	—	—	(37.2)
Domestic manufacturing deduction	(2.1)	(0.5)	(15.5)
Goodwill impairment	—	—	19.6
Legal settlements	—	3.0	—
Audit settlements	(1.3)	0.5	(62.9)
Stock compensation	1.5	1.3	15.8
Tax credits	(3.9)	(3.5)	(30.5)
Foreign rate differential	1.4	(2.1)	76.0
Other	0.6	0.3	3.3
Effective tax rate	32.7%	34.7%	(68.1)%

Our effective tax rate for 2008 was impacted by:

- non-deductible stock-based compensation expense of $34.0 million; and
- $5.1 million of tax benefits recorded to our income tax provision reflecting the resolution of various issues related to the settlement of IRS audits for the tax years 2004 to 2005. In conjunction with those settlements, we reduced our tax reserves by $4.9 million and recorded current and deferred tax benefits for the remaining portion of the settlement amounts.

Our effective tax rates for 2007 and 2006 were impacted by:

- the charge for IPR&D of $106.4 million recorded in October 2007 in connection with our acquisition of Bioenvision, of which $100.3 million was deductible and taxed at rates other than the U.S. statutory income tax rate and $6.1 million was non-deductible;
- non-deductible stock compensation expenses of $32.0 million in 2007 and $33.2 million in 2006;
- a non-deductible charge of $64.0 million for the settlement of the Biosurgery tracking stock suit in August 2007;
- the deductible charge for IPR&D of $552.9 million recorded in November 2006 in connection with our acquisition of AnorMED, of which $195.7 million was taxed at rates other than the U.S. statutory tax rate;
- a charge for impaired goodwill of $219.2 million recorded in September 2006, of which $29.5 million was not deductible for tax purposes; and
- the settlement of the 1996 to 1999 IRS audit and various state and foreign income tax audits in 2006. We recorded a $33.2 million tax benefit to our income tax provision in 2006 primarily related to export sales benefits, tax credits and deductible intangibles from a prior period acquisition. In conjunction with those settlements, we reduced our tax reserves by approximately $13.1 million and recorded current and deferred tax benefits for the remaining portion of the settlement amounts.

In addition, our overall tax rate has changed significantly due to fluctuations in our income (loss) before taxes, which was $625.5 million in 2008, $735.7 million in 2007, and $(52.7) million in 2006.

We are currently under IRS audit for tax years 2006 and 2007. We believe that we have provided sufficiently for all audit exposures. Settlement of these audits or the expiration of the statute of limitations on the assessment of income taxes for any tax year may result in a reduction of future tax provisions. Any such benefit would be recorded upon final resolution of the audit or expiration of the applicable statute of limitations.

Research and Development Programs

Our research and development programs are focused on the areas of medicine where we market commercial products, namely rare inherited disorders, renal disease, transplant and immune diseases, orthopaedics, oncology and diagnostic and predictive testing. We also conduct research in cardiovascular disease, neurodegenerative diseases and other areas of unmet medical needs. Before we can commercialize our development-stage products, we will need to:

- conduct substantial research and development;
- undertake pre-clinical and clinical testing;
- develop and scale-up manufacturing processes and validate facilities; and
- pursue marketing authorization and other regulatory approvals and, in some countries, pricing approvals.

This process is risky, expensive, and may take several years. We cannot guarantee that we will be able to successfully develop any product, or that we would be able to recover our development costs upon commercialization of a product that we successfully develop.

Below is a brief description of our significant research and development programs:

Program	Program Description or Indication	Development Status at December 31, 2008	Year of Expected Product Launch
Fabrazyme	Fabry disease	Several post-marketing commitments in the United States are ongoing.	Product was launched in 2001
Myozyme	Pompe disease	Several post-marketing commitments ongoing.	Product was launched in 2006
GENZ-112638	Gaucher disease	Phase 2 study results due in the first half of 2009. Phase 3 trial expected to commence during the first half of 2009.	2013
Aldurazyme	MPS I	Several post-marketing commitments ongoing.	Product was launched in 2003
Renvela (sevelamer carbonate)	Control of serum phosphorus in patients with CKD on and off hemodialysis	Completed open-label study to compare powder to tablet formulation that showed the two formulations are equivalent in controlling serum phosphorus in hemodialysis patients. Commenced enrollment in trial for powder formulation to allow once daily dosing in 2006. We have filed for approval of the tablet formulation in Brazil and completed the European filing in the first quarter of 2008. We are preparing to file for approval in other key markets throughout 2009. We anticipate approval of the tablet formulations for the control of serum phosphorus in patients with CKD not on dialysis by the middle of 2009 in the United States and in the first half of 2009 in the European Union.	Tablet formulation of product was launched in the United States in 2008 for the control of serum phosphorus in patients with CKD on hemodialysis
Advanced Phosphate Binder	Next-generation phosphate binder	We have filed an IND for an advanced phosphate binder (APB) and expect to begin a phase 2/3 trial in 2009.	2014
Mipomersen(1)	Reduction of LDL cholesterol	Enrollment in Phase 3 clinical trials in patients with FH was completed in 2008. Top-line data expected in the first half of 2009.	2011

Program	Program Description or Indication	Development Status at December 31, 2008	Year of Expected Product Launch
Synvisc-One	Viscosupplementation products to treat osteoarthritis of the knee and other joints	Received marketing approval in the European Union for Synvisc-One for knee osteoarthritis pain in the fourth quarter of 2007. FDA approval received in the first quarter of 2009.	2009 in the United States
Sepra products	Next stage products to prevent surgical adhesions for various indications	Two clinical studies for Sepraspray are ongoing.	2009 through 2010
Campath(2)	B-CLL	The FDA granted front-line approval of Campath for CLL in the United States in the third quarter of 2007 and in the European Union in the fourth quarter of 2007; phase 3 combination therapy trial in second-line CLL completed enrollment in the fourth quarter of 2008.	2009 through 2011
Mozobil(3)	Improve the efficacy of stem cell transplantation in patients with blood cancers	BLA and MAA submitted in June 2008. FDA approval was received in December 2008. European Union approval is expected in the second half of 2009. Registration in non-US countries is ongoing.	2009 through 2014
Evoltra (clofarabine)—EU and Asia(2)	Pediatric and adult leukemias	Phase 2 trial in pediatric acute leukemias completed in 2008; Phase 2 trial in adult leukemia completed enrollment in late 2007; long-term follow-up completed in 2008. Phase 3 study in adult leukemia through cooperative group; enrollment commenced in 2006 and was ongoing in 2008. Additional cooperative group and investigator-sponsored studies committed to in 2008, but enrollment will begin in 2009.	Pediatric launched in the European Union; 2010 in the European Union for adult; 2010 through 2013 in Asia for pediatric and adult

Program	Program Description or Indication	Development Status at December 31, 2008	Year of Expected Product Launch
Clolar (clofarabine)—North and South America(2)	Pediatric and adult leukemias, myelodysplastic syndromes (MDS)	Phase 1/2 trial in pediatric acute leukemias completed enrollment in 2007. Phase 2 trial opened in late 2007 and enrollment continues. Phase 2 trial in adult leukemia completed enrollment in late 2007; long-term follow-up is ongoing. Phase 3 trial in adult leukemia commenced in 2006 and enrollment continued throughout 2008 and is ongoing. Phase 2 trial in high-risk MDS commenced enrollment in 2007; enrollment is ongoing. Phase 1 trial of alternate dose and schedule in high-risk MDS commenced enrollment in 2008; enrollment is ongoing. Supporting multiple investigator-sponsored studies in various pediatric and adult leukemias.	Pediatric launched in U.S.; 2009 through 2013 in Canada/South America for pediatric; 2009 in U.S. for adult; 2010 through 2013 in Canada/South America for adult; MDS in 2014
Alemtuzumab (Campath) MS(2)	Multiple Sclerosis	Data from phase 2 trial (CAMMS23) analyzed at the predefined 1 and 2 year interim analyses; began enrollment of two phase 3 trials in 2007. Expected completion of phase 3 trials is 2012.	2012

(1) We obtained an exclusive, worldwide license to develop and commercialize this program from a license and collaboration agreement with Isis in January 2008.

(2) Program acquired in connection with the December 2004 acquisition of ILEX Oncology, and with respect to clofarabine rights outside of North America, acquired in connection with the October 2007 acquisition of Bioenvision.

(3) Program acquired in connection with the November 2006 acquisition of AnorMED.

The aggregate actual and estimated research and development expense for the programs described above and others is as follows (amounts in millions):

Costs incurred for the year ended December 31, 2007	$330.2
Costs incurred for the year ended December 31, 2008	$401.6
Cumulative costs incurred as of December 31, 2008	$1,867.7
Estimated costs to complete as of December 31, 2008	$1,600 to $1,900

Our current estimates of the time and investment required to develop these products may change depending on the approach we take to pursue them, the results of preclinical and clinical studies, and the content and timing of decisions made by the FDA, the EMEA and other regulatory authorities. We cannot provide assurance that any of these programs will ever result in products that can be marketed profitably. In addition, we cannot guarantee that we will be able to develop and commercialize products before our competitors develop and commercialize products for the same indication. If certain of our

development-stage programs do not result in commercially viable products, our results of operations could be materially adversely affected.

Liquidity and Capital Resources

We continue to generate cash from operations. We had cash, cash equivalents and short- and long-term investments of $1.0 billion at December 31, 2008 and $1.5 billion at December 31, 2007.

The following is a summary of our statements of cash flows for 2008 and 2007:

Cash Flows from Operating Activities

Cash flows from operating activities are as follows (amounts in thousands):

	2008	2007
Cash flows from operating activities:		
Net income	$421,081	$ 480,193
Non-cash charges, net	428,709	556,341
Decrease in cash from working capital changes (excluding impact of acquired assets and assumed liabilities)	(90,615)	(117,862)
Cash flows from operating activities	$759,175	$ 918,672

Cash provided by operating activities decreased by $159.5 million in 2008, as compared to 2007, primarily driven by:

- a $186.7 million decrease in net income, including non-cash charges, which was driven by an increase of $310.2 million in charges, net of tax, for license fees paid to third parties in 2008, offset by overall growth in the business; and
- a $27.2 million decrease in cash used for working capital.

Cash Flows from Investing Activities

Cash flows from investing activities were $(581.5) million in 2008, compared to $(591.1) million in 2007. In 2008, purchases of other intangible assets, capital expenditures and the settlement of the appraisal demand with substantially all the Bioenvision dissenters accounted for significant cash outlays for investing activities. During 2008, we used:

- $597.6 million in cash to fund the purchase of property, plant and equipment, primarily related to the ongoing expansion of our manufacturing capacity in Ridgefield, New Jersey, the Republic of Ireland, the United Kingdom, Belgium and France, completion of construction of a new research and development facility in Framingham, Massachusetts, planned improvements at our manufacturing facility in Allston, Massachusetts, and capitalized costs of an internally developed enterprise software system for our genetics business;
- $60.0 million in cash for a milestone payment to Wyeth in May 2008; and
- $80.1 million in cash to purchase five million shares of Isis common stock in February 2008 which amount is included in other noncurrent assets on our consolidated balance sheet.

These cash outlays were partially offset by $193.7 million of net sales of investments and cash proceeds from the sale of investments in equity securities.

In 2007, we used a total of $815.7 million of cash to fund capital expenditures, acquisitions and purchases of intangible assets including:

- $412.9 million in cash to fund the purchase of property, plant and equipment, primarily related to the ongoing expansion of our manufacturing capacity in the Republic of Ireland, the United Kingdom and Belgium, the construction of a new research and development facility in Framingham, Massachusetts, and capitalized costs of an internally developed enterprise software system for our genetics business;
- $288.6 million of cash to fund the acquisition of Bioenvision in October 2007;
- $53.8 million of cash to fund the acquisition of certain diagnostic assets of DCL in December 2007; and
- $60.4 million to purchase other intangible assets.

These decreases in cash were partially offset by cash provided by $205.6 million of cash received from the net sales of investments.

Cash Flows from Financing Activities

Our cash flows from financing activities are as follows (amounts in thousands):

	2008	2007
Cash flows from financing activities:		
Proceeds from issuance of common stock	$ 318,753	$ 285,762
Repurchases of common stock	(143,012)	(231,576)
Excess tax benefits from stock-based compensation	18,445	13,575
Payments of notes receivable from stockholders	12,635	—
Payments of debt and capital lease obligations	(693,961)	(5,909)
Decrease in bank overdrafts	25,760	(5,910)
Minority interest contributions	1,345	3,979
Other financing activities	(6,208)	4,702
Cash flows from financing activities	$(466,243)	$ 64,623

In May 2007, our board of directors authorized a stock repurchase program to repurchase up to an aggregate maximum amount of $1.5 billion or 20,000,000 shares of our outstanding common stock over a three year period that began in June 2007. The repurchases are being made from time to time and can be effectuated through open market purchases, privately negotiated transactions, transactions structured through investment banking institutions, or by other means, subject to management's discretion and as permitted by securities laws and other legal requirements. In 2008, we repurchased a total of 2,000,000 shares of our common stock under the stock repurchase program at an average price of $71.49 per share for a total of $143.0 million of cash, including fees. As of December 31, 2008, we have purchased a cumulative total of 5,500,000 shares of our common stock at an average price of $68.09 per share for a total of $374.6 million in cash, including fees. As of December 31, 2007, we had repurchased a total of 3,500,000 shares of our common stock at an average price of $66.14 per share for a total of $231.6 million of cash, including fees.

In December 2003, we issued $690.0 million of 1.25% convertible senior notes. In October 2008, we notified the holders of these notes that we planned to redeem the notes on December 1, 2008 using available cash. Prior to the redemption date, $2.8 million in principal amount of notes were converted into 39,665 shares of our common stock. The remaining notes were redeemed for $687.2 million cash plus accrued interest of $4.3 million and bank fees which were not significant.

Revolving Credit Facility

In July 2006, we entered into a five-year $350.0 million senior unsecured revolving credit facility with JPMorgan Chase Bank, N.A., as administrative agent, Bank of America, N.A., as syndication agent, ABN AMRO Bank N.V., Citizens Bank of Massachusetts and Wachovia Bank, National Association, as co-documentation agents, and a syndicate of lenders, which we refer to as our 2006 revolving credit facility. The proceeds of loans under our 2006 revolving credit facility can be used to finance working capital needs and for general corporate purposes. We may request that our 2006 revolving credit facility be increased at any time by up to an additional $350.0 million in the aggregate, as long as no default or event of default has occurred or is continuing and certain other customary conditions are satisfied. Borrowings under our 2006 revolving credit facility will bear interest at various rates depending on the nature of the loan.

As of December 31, 2008, no amounts were outstanding under our 2006 revolving credit facility. The terms of our 2006 revolving credit facility include various covenants, including financial covenants that require us to meet minimum interest coverage ratios and maximum leverage ratios. As of December 31, 2008, we were in compliance with these covenants.

Contractual Obligations

As of December 31, 2008, we had committed to make the following payments under contractual obligations (amounts in millions):

	Payments Due by Period						
Contractual Obligations	**Total**	**2009**	**2010**	**2011**	**2012**	**2013**	**After 2013**
Long-term debt obligations(1)	$ 24.9	$ 1.5	$ 1.6	$ 1.6	$ 1.7	$ 1.8	$ 16.7
Capital lease obligations(1)	165.3	15.5	15.5	15.5	15.5	16.9	86.4
Operating leases(1)	300.8	67.6	53.8	39.1	29.1	16.5	94.7
Contingent payments(2)	75.0	75.0	—	—	—	—	—
Interest obligations(3)	10.1	1.2	1.1	1.1	1.0	0.9	4.8
Defined pension benefit plans payments	20.6	1.0	1.1	1.2	1.5	1.7	14.1
Unconditional purchase obligations	220.8	59.5	56.4	56.4	48.5	—	—
Capital commitments(4)	1,035.2	635.5	264.3	78.8	56.5	—	—
Total contractual obligations	$1,852.7	$856.8	$393.9	$193.7	$153.8	$37.8	$216.7

(1) See Note L., "Long-term Debt and Leases" to our consolidated financial statements for additional information on long-term debt and lease obligations.

(2) From time to time, as a result of mergers, acquisitions or license arrangements, we enter into agreements under which we are obligated to make contingent payments upon the occurrence of certain events, and/or royalties on sales of acquired products or commercialization rights. The actual amounts for and the timing of contingent payments depend on numerous factors outside of our control, including the success of preclinical and clinical development efforts with respect to the products being developed under these agreements, the content and timing of decisions made by the United States Patent and Trademark Office, or USPTO, the FDA and other regulatory authorities, the existence and scope of third party intellectual property, the reimbursement and competitive landscape around these products, the volume of sales or gross margin of a product in a specified territory and other factors described under the heading "Risk Factors" below. Because we cannot predict with certainty the amount or specific timing of contingent payments, we have included amounts for contingent payments that we believe are probable of being paid in our contractual obligations table. See Note C., "Mergers, Acquisitions and Strategic Transactions" to our consolidated financial statements for additional information on contingent payments resulting

from our acquisitions of Verigen, Equal Diagnostics and the sales and marketing rights to Synvisc from Wyeth.

Contingent payments also exclude any liabilities pertaining to uncertain tax positions as we cannot make a reliable estimate of the period of cash settlement with the respective taxing authorities. Our other noncurrent liabilities associated with uncertain tax positions were approximately $40 million at December 31, 2008 and approximately $31 million at December 31, 2007.

(3) Represents interest payment obligations related to the promissory notes to three former shareholders of Equal Diagnostics and the mortgage payable we assumed in the purchase of land and a manufacturing facility we formerly leased in Framingham, Massachusetts.

(4) Consists of contractual commitments to vendors that we have entered into as of December 31, 2008 related to our outstanding capital and internally developed software projects. Our estimated cost of completion for assets under construction as of December 31, 2008 is $1.0 billion, as follows (amounts in millions):

Location	Cost to Complete at December 31, 2008
Framingham, Massachusetts, U.S. (approximately 47% for software development). . . .	$ 344.8
Westborough, Massachusetts, U.S. (primarily software development)	147.1
Lyon, France	87.5
Geel, Belgium	28.1
Waterford, Ireland	114.0
Allston, Massachusetts, U.S.	170.5
Ridgefield, New Jersey, U.S.	11.6
Haverhill, United Kingdom	10.4
Other	121.2
Total estimated cost to complete	$1,035.2

Financial Position

We believe that our available cash, investments and cash flows from operations will be sufficient to fund our planned operations and capital requirements for the foreseeable future. Although we currently have substantial cash resources and positive cash flow, we have used or intend to use substantial portions of our available cash and may make additional borrowings for:

- product development and marketing;
- business combinations and strategic business initiatives;
- the remaining $1.1 billion available under our ongoing stock repurchase program;
- upgrading our information technology systems;
- expanding existing and constructing additional manufacturing facilities;
- contingent payments under license and other agreements, including payments related to our license of mipomersen from Isis, ataluren from PTC, and Prochymal and Chondrogen from Osiris (for more information on these payments please read Note C., "Mergers, Acquisitions and Strategic Transactions," to our consolidated financial statements);
- expanding staff; and
- working capital and satisfaction of our obligations under capital and operating leases.

In addition, we have several outstanding legal proceedings. Involvement in investigations and litigation can be expensive and a court may ultimately require that we pay expenses and damages. As a result of legal proceedings, we also may be required to pay fees to a holder of proprietary rights in order to continue certain operations.

Recently, the general economic, global capital and credit market conditions in the United States and other parts of the world have deteriorated significantly and have adversely affected access to capital and increased the cost of capital. However, we continue to believe that our available cash, investments and cash flow from operations, together with our revolving credit facility, will be adequate to meet our operating, investing and financing needs in the foreseeable future. We currently do not rely on short-term borrowing to fund our operations and, as a result, we do not believe that existing global capital and credit market conditions will have a significant impact on our near-term liquidity. We are closely monitoring our liquidity as well as the condition of these markets. If these conditions continue or become worse, our future cost of debt and equity capital and our future access to capital markets could be adversely affected. We cannot guarantee that we will be able to obtain any additional financing in the future or extend any existing financing arrangements on favorable terms, or at all.

Off-Balance Sheet Arrangements

We do not use special purpose entities or other off-balance sheet financing arrangements. We enter into guarantees in the ordinary course of business related to the guarantee of our own performance and the performance of our subsidiaries. In addition, we have joint ventures and collaborations that are focused on research, development, and the commercialization of products. Entities falling within the scope of FIN 46R are included in our consolidated statements of operations if we qualify as the primary beneficiary. Entities not subject to consolidation under FIN 46R are accounted for under the equity method of accounting if our ownership percent exceeds 20% or if we exercise significant influence over the entity. We account for our portion of the income/losses of these entities in the line item "Equity in income of equity method investments" in our statements of operations. We also acquire companies in which we agree to pay contingent consideration based on attaining certain regulatory or sales thresholds.

Recent Accounting Pronouncements

The following table shows recently issued accounting pronouncements and our position for adoption:

FASB Pronouncements	Relevant Requirements of FASB Pronouncements	Issued Date/Our Effective Dates	Status
FAS 159, "The Fair Value Option for Financial Assets and Financial Liabilities, Including an Amendment of FASB Statement No. 115."	Permits, but does not require, entities to measure certain financial instruments and other assets and liabilities at fair value on an instrument-by-instrument basis. Unrealized gains and losses on items for which the fair value option has been elected should be recognized in earnings at each subsequent reporting date.	Issued February 2007. Adopted January 2008.	We did not elect to measure any new assets or liabilities at their respective fair values and, therefore, the adoption of FAS 159 did not have an impact on our consolidated financial statements.

FASB Pronouncements	Relevant Requirements of FASB Pronouncements	Issued Date/Our Effective Dates	Status
EITF Issue No. 07-1, "Accounting for Collaborative Arrangements."	Defines collaborative arrangements and establishes reporting requirements for transactions between participants in a collaborative arrangement and between participants in the arrangement and third parties, including the appropriate income statement presentation and classification of, and the required disclosures related to, these arrangements.	Issued November 2007. Effective January 1, 2009, to be applied retrospectively for collaborative arrangements existing as of the effective date.	EITF Issue No. 07-1 is not expected to have a material impact on our consolidated financial statements.
FAS 141 (revised 2007), "Business Combinations."	Modifies and prescribes new requirements for accounting for business combinations. Among other things, acquisition costs will be expensed as incurred; restructuring costs associated with a business combination will be expensed subsequent to the acquisition date; noncontrolling interests will be valued at fair value; IPR&D will be recorded at fair value as an indefinite lived intangible asset; contingent purchase price payments will be measured at the date of acquisition and re-measured in subsequent periods with an adjustment to earnings; and changes in deferred tax asset valuation allowances and income tax uncertainties after the acquisition will affect income tax expense.	Issued December 2007. Effective on a prospective basis for all business combinations for which the acquisition date is on or after January 1, 2009.	FAS 141 (revised 2007) standards will be applied prospectively to business combinations after January 1, 2009, and will significantly change our accounting and reporting of future business combination transactions.
FAS No. 160, "Noncontrolling Interests in Consolidated Financial Statements—an amendment of ARB No. 51."	Requires ownership interests in subsidiaries, not held by the parent, to be clearly identified in the consolidated statement of financial position within equity, but separate from the parent's equity, and the minority interest in net income needs to be identified on the consolidated statement of income. Additional disclosures are required.	Issued December 2007. Effective January 1, 2009, prospectively. Disclosure requirements to be applied retrospectively.	FAS No. 160 is not expected to have a material impact on our consolidated financial statements.

Market Risk

We are exposed to potential loss from exposure to market risks represented principally by changes in interest rates, foreign exchange rates and equity prices. At December 31, 2008, we held a number of financial instruments, including derivative contracts in the form of foreign exchange forward contracts, and investments in marketable securities. We do not hold derivatives or other financial instruments for speculative purposes.

Equity Price Risk

We hold investments in a limited number of U.S. and European equity securities. We estimated the potential loss in fair value due to a 10% decrease in the equity prices of each marketable security held at December 31, 2008 to be $5.7 million, as compared to $6.5 million at December 31, 2007.

Interest Rate Risk

We are exposed to potential loss due to changes in interest rates. Our principal interest rate exposure is to changes in U.S. interest rates. Instruments with interest rate risk include short- and long-term investments in fixed income securities and a fixed rate capital lease. To estimate the potential loss due to changes in interest rates, we performed a sensitivity analysis using the instantaneous adverse change in interest rates of 100 basis points across the yield curve.

On this basis, we estimate the potential loss in fair value to be $6.2 million as of December 31, 2008, as compared to $3.3 million as of December 31, 2007. The increase is primarily a result of a decrease in the amount and duration of the fixed income investment portfolio, which provides less of an offset to the increase in the fair value of our capital lease.

Foreign Exchange Risk

As a result of our worldwide operations, we may face exposure to potential adverse movements in foreign currency exchange rates, primarily to the Euro, British pound and Japanese yen. Exposures to currency fluctuations that result from sales of our products in foreign markets are partially offset by the impact of currency fluctuations on our international expenses. We use forward foreign exchange contracts to further reduce our exposure to changes in exchange rates, primarily to offset the earnings effect from intercompany short-term foreign currency assets and liabilities. We also hold a limited amount of foreign currency denominated equity securities.

As of December 31, 2008, we estimate the potential loss in fair value of our foreign currency contracts and foreign equity holdings that would result from a hypothetical 10% adverse change in exchange rates to be $26.9 million, as compared to $36.2 million as of December 31, 2007. The change from the prior period is due to a decrease in our net foreign currency contracts. Since the contracts hedge mainly transactional exchange exposures, most changes in the fair values of the contracts would be offset by changes in the underlying values of the hedged items.

Risk Factors

Our future operating results could differ materially from the results described in this report due to the risks and uncertainties related to our business, including those discussed below.

If we fail to increase sales of several existing products and services or to commercialize new products in our pipeline, we will not meet our financial goals.

Over the next few years, our success will depend substantially on our ability to increase revenue from our existing products and services. These products and services include Renagel/Renvela, Synvisc, Synvisc-One, Fabrazyme, Myozyme, Aldurazyme, Hectorol, Thymoglobulin, Thyrogen, Clolar/Evoltra, Campath, Mozobil and diagnostic testing services.

Our ability to increase sales will depend on a number of factors, including:

- acceptance by the medical community of each product or service;
- the availability of competing treatments that are deemed safer, more efficacious, more convenient to use, or more cost effective;
- our ability, and the ability of our collaborators, to efficiently manufacture sufficient quantities of each product to meet demand and to do so in a timely and cost efficient manner;

- regulation by the U.S. Food and Drug Administration, commonly referred to as the FDA, and the European Agency for the Evaluation of Medicinal Products, or EMEA, and other regulatory authorities of these products and services and the facilities and processes used to manufacture these products;
- the scope of the labeling approved by regulatory authorities for each product and competitive products;
- the effectiveness of our sales force;
- the availability and extent of coverage, pricing and level of reimbursement from governmental agencies and third party payors; and
- the size of the patient population for each product or service and our ability to identify new patients.

Part of our growth strategy involves conducting additional clinical trials to support approval of expanded uses of some of our products, including Clolar/Evoltra and alemtuzumab for multiple sclerosis, pursuing marketing approval for our products in new jurisdictions and developing next generation products, such as Genz-112638 and our advanced phosphate binder. The success of this component of our growth strategy will depend on the outcome of these additional clinical trials, the content and timing of our submissions to regulatory authorities and whether and when those authorities determine to grant approvals. Because the healthcare industry is extremely competitive and regulatory requirements are rigorous, we spend substantial funds marketing our products and attempting to expand approved uses for them. These expenditures depress near-term profitability with no assurance that the expenditures will generate future profits that justify the expenditures.

Our growth strategy also depends on developing new products, such as mipomersen, Prochymal and ataluren, through entry into strategic alliances and collaborations. If we are unable to manage these external growth opportunities successfully or if the product development process is unsuccessful, we will not be able to grow our business in the way that we currently expect.

Our future success will depend on our ability to effectively develop and market our products and services against those of our competitors.

The human healthcare products and services industry is extremely competitive. Other organizations, including pharmaceutical, biotechnology, device and diagnostic testing companies, and generic and biosimilar manufacturers, have developed and are developing products and services to compete with our products, services, and product candidates. If healthcare providers, patients or payors prefer these competitive products or services or these competitive products or services have superior safety, efficacy, pricing or reimbursement characteristics, we will have difficulty maintaining or increasing the sales of our products and services.

Renagel/Renvela competes with several other products for the control of elevated phosphorus levels in patients with chronic kidney failure on hemodialysis. PhosLo®, a prescription calcium acetate preparation sold by Fresenius Medical Care, is marketed in the United States with other branded and generic calcium preparations available worldwide. Fosrenol®, a prescription lanthanum carbonate sold by Shire, is marketed in the United States, Europe, Canada and Latin America. A generic formulation of PhosLo was launched in the United States in October 2008. Renagel/Renvela also competes with over-the-counter calcium carbonate products such as TUMS® and metal-based options such as aluminum and magnesium.

UCB S.A. has developed Zavesca®, a small molecule drug for the treatment of Gaucher disease, the disease addressed by Cerezyme. Zavesca, sold by Actelion Ltd., has been approved in the United States, European Union and Israel as an oral therapy for use in patients with mild to moderate Type 1 Gaucher disease for whom enzyme replacement therapy is unsuitable. In addition, Shire reported top-line data from a phase 1/2 clinical trial for its gene-activated glucocerebrosidase program, also to

treat Gaucher disease, and initiated phase 3 studies in July 2007. Protalix Biotherapeutics Ltd. initiated a phase 3 trial for a plant-derived enzyme replacement therapy to treat Gaucher disease in the third quarter of 2007. Amicus Therapeutics, Inc., or Amicus, is conducting phase 2 trials for oral chaperone medication to treat Gaucher disease. We are also aware of other development efforts aimed at treating Gaucher disease.

Outside the United States, Shire is marketing Replagal®, a competitive enzyme replacement therapy for Fabry disease which is the disease addressed by Fabrazyme. In addition, while Fabrazyme has received orphan drug designation, which provides us with seven years of market exclusivity for the product in the United States, other companies may seek to overcome our market exclusivity and, if successful, compete with Fabrazyme in the United States. Amicus has completed phase 2 trials for an oral chaperone medication to treat Fabry disease and is in discussions with the FDA and EMEA regarding the conduct of phase 3 clinical trials. We are aware of other development efforts aimed at treating Fabry disease.

Myozyme has marketing exclusivity in the United States until 2013 and in the European Union until 2016 due to its orphan drug status, although companies may seek to overcome the associated marketing exclusivity. Amicus Therapeutics has completed two phase 1 clinical studies for a small molecule treatment for Pompe disease and initiated a phase 2 clinical trial in June 2008. In February 2009, Amicus announced that the company had suspended enrollment for its phase 2 clinical trial and that it had received verbal notice from the FDA that the trial is on clinical hold.

Current competition for Synvisc and Synvisc-One includes Supartz®, a product manufactured by Seikagaku Corporation that is sold in the United States by Smith & Nephew Orthopaedics and in Japan by Kaken Pharmaceutical Co. under the name Artz®; Hyalgan®, produced by Fidia Farmaceutici S.p.A. and marketed in the United States by Sanofi-Aventis; Orthovisc®, produced by Anika Therapeutics, Inc., and marketed in the United States by Johnson & Johnson and marketed outside the United States through distributors; Anika's Monovisc™, which is marketed in Europe; Euflexxa™, a product manufactured and sold by Ferring Pharmaceuticals and marketed by Ferring in the United States and Europe; and Durolane®, manufactured by Q-Med AB and distributed outside the United States by Smith & Nephew Orthopedics. Durolane and Euflexxa are produced by bacterial fermentation, which may provide these products a competitive advantage over avian-sourced Synvisc and Synvisc-One. We are aware of various viscosupplementation products on the market or in development, but are unaware of any products that have physical properties of viscosity, elasticity or molecular weight comparable to those of Synvisc and Synvisc-One. Furthermore, several companies market products that are not viscosupplementation products but which are designed to relieve the pain associated with osteoarthritis. Synvisc and Synvisc-One will have difficulty competing with any of these products to the extent the competitive products have a similar safety profile and are considered more efficacious, less burdensome to administer or more cost-effective.

The examples above are illustrative and not exhaustive. Almost all of our products and services face competition. Furthermore, the field of biotechnology is characterized by significant and rapid technological change. Discoveries by others may make our products or services obsolete. For example, competitors may develop approaches to treating LSDs that are more effective, convenient or less expensive than our products and product candidates. Because a significant portion of our revenue is derived from products that address this class of diseases and a substantial portion of our expenditures is devoted to developing new therapies for this class of diseases, such a development would have a material negative impact on our results of operations.

If we fail to obtain and maintain adequate levels of reimbursement for our products and services from third party payors, the commercial potential of our products and services will be significantly limited.

A substantial portion of our domestic and international revenue comes from payments by third party payors, including government health administration authorities and private health insurers.

Governments and other third party payors may not provide adequate insurance coverage or reimbursement for our products and services, which could impair our financial results.

Third party payors are increasingly scrutinizing pharmaceutical budgets and healthcare expenses and are attempting to contain healthcare costs by:

- challenging the prices charged for healthcare products and services;
- limiting both the coverage and the amount of reimbursement for new therapeutic products;
- reducing existing reimbursement rates for commercialized products and services;
- limiting coverage for the treatment of a particular patient to a maximum dollar amount or specified period of time;
- denying or limiting coverage for products that are approved by the FDA, EMEA or other governmental regulatory bodies but are considered experimental or investigational by third party payors; and
- refusing in some cases to provide coverage when an approved product is used for disease indications in a way that has not received FDA, EMEA or other applicable marketing approval.

Efforts by third party payors to reduce costs could decrease demand for our products and services. In addition, in certain countries, including countries in the European Union and Canada, the coverage of prescription drugs, pricing and levels of reimbursement are subject to governmental control. Therefore, we may be unable to negotiate coverage, pricing and/or reimbursement on terms that are favorable to us. Moreover, certain countries reference the prices in other countries where our products are marketed. Thus, inability to secure adequate prices in a particular country may also impair our ability to maintain or obtain acceptable prices in existing and potential new markets. Government health administration authorities may also rely on analyses of the cost-effectiveness of certain therapeutic products in determining whether to provide reimbursement for such products. Our ability to obtain satisfactory pricing and reimbursement may depend in part on whether our products, the cost of some of which is high in comparison to other therapeutic products, are viewed as cost-effective.

Furthermore, governmental regulatory bodies, such as the Centers for Medicare and Medicaid Services (CMS), may from time-to-time make unilateral changes to reimbursement rates for our products and services. These changes could reduce our revenue by causing healthcare providers to be less willing to use our products and services. Although we actively seek to assure that any initiatives that are undertaken by regulatory agencies involving reimbursement for our products and services do not have an adverse impact on us, we may not always be successful in these efforts.

The development of new biotechnology products involves a lengthy and complex process, and we may be unable to commercialize any of the products we are currently developing.

We have numerous products under development and devote considerable resources to research and development, including clinical trials.

Before we can commercialize our product candidates, we will need to:

- conduct substantial research and development;
- undertake preclinical and clinical testing;
- develop and scale-up manufacturing processes; and
- pursue marketing approvals and, in some jurisdictions, pricing and reimbursement approvals.

This process involves a high degree of risk and takes many years. Our product development efforts with respect to a product candidate may fail for many reasons, including:

- failure of the product candidate in preclinical studies;

- difficulty enrolling patients in clinical trials, particularly for disease indications with small patient populations;
- patients exhibiting adverse reactions to the product candidate or indications of other safety concerns;
- insufficient clinical trial data to support the effectiveness or superiority of the product candidate;
- our inability to manufacture sufficient quantities of the product candidate for development or commercialization activities in a timely and cost-efficient manner;
- our failure to obtain, or delays in obtaining, the required regulatory approvals for the product candidate, the facilities or the process used to manufacture the product candidate; or
- changes in the regulatory environment, including pricing and reimbursement, that make development of a new product or of an existing product for a new indication no longer desirable.

Few research and development projects result in commercial products, and success in preclinical studies or early clinical trials often is not replicated in later studies. For example, in our phase 3 trial known as the Polymer Alternative for CDAD Treatment (PACT) study, tolevamer did not meet its primary endpoint. In our pivotal study of hylastan for treatment of patients with osteoarthritis of the knee, hylastan did not meet its primary endpoint. We may decide to abandon development of a product or service candidate at any time or we may be required to expend considerable resources repeating clinical trials or conducting additional trials, either of which would increase costs of development and delay any revenue from those programs.

Our efforts to expand the approved indications for our products, gain marketing approval in new jurisdictions and develop next generation products also may fail. These expansion efforts are subject to many of the risks associated with completely new products and, accordingly, we may fail to recoup the investments we make pursuing these strategies.

Our financial results are dependent on sales of Cerezyme.

Sales of Cerezyme, our enzyme-replacement product for patients with Gaucher disease, totaled $1.2 billion for the year ended December 31, 2008, representing approximately 27% of our total revenue. Because our business is dependent on Cerezyme, negative trends in revenue from this product could have an adverse effect on our results of operations and cause the value of our securities to decline. We will lose revenue if alternative treatments gain commercial acceptance, if our marketing activities are restricted, or if coverage, pricing or reimbursement is limited. In addition, the patient population with Gaucher disease is not large. Because a significant percentage of that population already uses Cerezyme, opportunities for future sales growth are constrained. Furthermore, changes in the methods for treating patients with Gaucher disease, including treatment protocols that combine Cerezyme with other therapeutic products or reduce the amount of Cerezyme prescribed, could limit growth, or result in a decline, in Cerezyme sales.

We may encounter substantial difficulties managing our growth.

Several risks are inherent to our plans to grow our business. Achieving our goals will require substantial investments in research and development, sales and marketing, and facilities. For example, we have spent considerable resources building and seeking regulatory approvals for our manufacturing facilities. We cannot assure you that these facilities will prove sufficient to meet demand for our products or that we will not have excess capacity at these facilities. In addition, building our facilities is expensive, and our ability to recover these costs will depend on increased revenue from the products produced at the facilities.

We produce relatively small amounts of material for research and development activities and pre-clinical trials. Even if a product candidate receives all necessary approvals for commercialization, we may not be able to successfully scale-up production of the product material at a reasonable cost or at all and we may not receive additional approvals in sufficient time to meet product demand. For example, the FDA has concluded that alglucosidase alfa produced in our 2000 liter bioreactors is a different product than alglucosidase alfa produced in our 160 liter bioreactors and therefore required us to submit a separate BLA for the 2000 liter product. This delay in receipt of FDA approval has had an adverse effect on our revenues and earnings and will continue to have an adverse effect until we receive regulatory approval.

If we are able to increase sales of our products, we may have difficulty managing inventory levels. Marketing new therapies is a complicated process, and gauging future demand is difficult. With Renagel, for example, we have encountered problems in the past managing inventory levels at wholesalers. Comparable problems may arise with any of our products, particularly during market introduction.

Growth in our business may also contribute to fluctuations in our operating results, which may cause the price of our securities to decline. Our revenue may fluctuate due to many factors, including changes in:

- wholesaler buying patterns;
- reimbursement rates;
- physician prescribing habits;
- the availability or pricing of competitive products; and
- currency exchange rates.

We may also experience fluctuations in our quarterly results due to price changes and sales incentives. For example, purchasers of our products, particularly wholesalers, may increase purchase orders in anticipation of a price increase and reduce order levels following the price increase. We occasionally offer sales incentives and promotional discounts on some of our products and services that could have a similar impact. In addition, some of our products, including Synvisc, are subject to seasonal fluctuation in demand.

Our operating results and financial position may be negatively impacted when we attempt to grow through business combination transactions.

We may encounter problems assimilating operations acquired in business combination transactions. These transactions often entail the assumption of unknown liabilities, the loss of key employees, and the diversion of management attention. Furthermore, in any business combination there is a substantial risk that we will fail to realize the benefits we anticipated when we decided to undertake the transaction. We have in the past taken significant charges for impaired goodwill and for impaired assets acquired in business combination transactions. We may be required to take similar charges in the future. We enter into most such transactions with an expectation that an acquired business will enhance the long-term strength of our business. These transactions, however, often depress our earnings in the near-term and the expected long-term benefits may never be realized. Business combination transactions also either deplete cash resources, require us to issue substantial equity, and/or require us to incur significant debt.

Manufacturing problems may cause product launch delays, inventory shortages, recalls and unanticipated costs.

In order to generate revenue from our approved products, we must be able to produce sufficient quantities of the products to satisfy demand. Many of our products are difficult to manufacture. Our

products that are biologics, for example, require product characterization steps that are more onerous than those required for most chemical pharmaceuticals. Accordingly, we employ multiple steps to attempt to control the manufacturing processes. Problems with these manufacturing processes, even minor deviations, could result in product defects or manufacturing failures that result in lot failures, product recalls, product liability claims and insufficient inventory. In the past, we have had to write down and incur other charges and expenses for products that failed to meet internal or external specifications, including Thymoglobulin, or for products that experience terminated production runs, including Myozyme produced at the 4000L scale. Similar charges could occur in the future.

Certain of the raw materials required in the commercial manufacturing and the formulation of our products are derived from biological sources, including mammalian sources and human plasma. Such raw materials may be difficult to procure and subject to contamination or recall. Also, some countries in which we market our products may restrict the use of certain biologically derived substances in the manufacture of drugs. A material shortage, contamination, recall, or restriction on the use of certain biologically derived substances in the manufacture of our products could adversely impact or disrupt our commercial manufacturing of our products or could result in a withdrawal of our products from markets. This too, in turn, could adversely affect our ability to satisfy demand for our products, which could materially and adversely affect our operating results.

In addition, we may only be able to produce some of our products at a very limited number of facilities and, in some cases, we rely on third parties to formulate and manufacture our products. For example, we manufacture all of our Cerezyme and a portion of our Fabrazyme and Myozyme products at our facility in Allston, Massachusetts. A number of factors could cause production interruptions at our facilities or the facilities of our third party providers, including equipment malfunctions, labor problems, raw material shortages, natural disasters, power outages, terrorist activities, or disruptions in the operations of our suppliers.

Manufacturing is also subject to extensive government regulation. Regulatory authorities must approve the facilities in which human healthcare products are produced and those facilities are subject to ongoing inspections. In addition, changes in manufacturing processes may require additional regulatory approvals. Obtaining and maintaining these regulatory approvals could cause us to incur significant additional costs and lose revenue. In addition, because are manufacturing processes are highly complex and are subject to lengthy regulatory approval processes, alternative qualified production capacity may not be available on a timely basis or at all if we cannot produce sufficient commercial requirements of bulk product to meet demand.

We rely on third parties to provide us with materials and services in connection with the manufacture of our products and the performance of our services.

Some materials necessary for commercial production of our products, including specialty chemicals and components necessary for manufacture, fill-finish and packaging, are provided by unaffiliated third party suppliers. In some cases, such materials are specifically cited in our marketing applications with regulatory authorities so that they must be obtained from that specific source unless and until the applicable authority approves another supplier. In addition, there may only be one available source for a particular chemical or component. For example, we acquire polyalylamine (PAA), used in the manufacture of Renagel, Renvela, Cholestagel and WelChol, from Cambrex Charles City, Inc., and N925, which is necessary to manufacture our LSD products from Invitrogen Corporation. These suppliers are the only sources for these materials currently qualified in our FDA drug applications for these products. Our suppliers also may be subject to FDA regulations or the regulations of other governmental agencies outside the United States regarding manufacturing practices. We may be unable to manufacture our products or to perform our services in a timely manner or at all if these third party suppliers were to cease or interrupt production or otherwise fail to supply sufficient quantities of these materials or products to us for any reason, including due to regulatory requirements or actions, adverse

financial developments at or affecting the supplier, labor shortages or disputes, or contamination of materials or equipment.

We also source some of our manufacturing, fill-finish, packaging and distribution operations to third party contractors. The manufacture of products, fill-finish, packaging and distribution of our products requires successful coordination among these third party providers and us. Our inability to coordinate these efforts, the inability of a third party contractor to secure sufficient source materials, the lack of capacity available at a third party contractor or any other problems with the operations of a third party contractor could require us to delay shipment of saleable products, recall products previously shipped or impair our ability to supply products at all. This could increase our costs, cause us to lose revenue or market share and damage our reputation. Furthermore, any third party we use to manufacture, fill-finish or package our products to be sold must also be licensed by the applicable regulatory authorities. As a result, alternative third party providers may not be readily available on a timely basis.

Our international sales and operating expenses are subject to fluctuations in currency exchange rates.

A significant portion of our business is conducted in currencies other than our reporting currency, the U.S. dollar. We recognize foreign currency gains or losses arising from our operations in the period in which we incur those gains or losses. As a result, currency fluctuations among the U.S. dollar and the currencies in which we do business have caused foreign currency translation gains and losses in the past and will likely do so in the future. Because of the number of currencies involved, the variability of currency exposures and the potential volatility of currency exchange rates, we may suffer significant foreign currency translation losses in the future due to the effect of exchange rate fluctuations.

In 2008, the change in foreign exchange rates had a net favorable impact on our revenues; however, this trend changed during the fourth quarter of 2008. Although we cannot predict with certainty future changes in foreign exchange rates or their effect on our results, we do not expect the change in foreign exchange rates to have a positive impact on our revenues for 2009.

Guidelines, recommendations and studies published by various organizations can reduce the use of our products.

Professional societies, practice management groups, private health/science foundations, and organizations involved in various diseases may publish guidelines, recommendations or studies to the healthcare and patient communities from time to time. Recommendations of government agencies or these other groups/organizations may relate to such matters as usage, dosage, route of administration, cost-effectiveness, and use of related therapies. Organizations like these have in the past made recommendations about our products and products of our competitors. Recommendations, guidelines or studies that are followed by patients and healthcare providers could result in decreased use of our products. The perception by the investment community or stockholders that recommendations, guidelines or studies will result in decreased use of our products could adversely affect prevailing market price for our common stock. In addition, our success also depends on our ability to educate patients and healthcare providers about our products and their uses. If these education efforts are not effective, then we may not be able to increase the sales of our existing products or successfully introduce new products to the market.

Government regulation imposes significant costs and restrictions on the development and commercialization of our products and services.

Government agencies heavily regulate the production and sale of healthcare products and the provision of healthcare services. Our success will depend on our ability to satisfy regulatory requirements. In particular, the FDA, the EMEA and comparable regulatory agencies in foreign jurisdictions must approve human therapeutic and diagnostic products before they are marketed, as well as the facilities in which they are made. This approval process can involve lengthy and detailed laboratory and clinical testing, sampling activities and other costly and time-consuming procedures. We may not receive required regulatory approvals on a timely basis or at all.

Therapies that have received regulatory approval for commercial sale may continue to face regulatory difficulties. If we fail to comply with applicable regulatory requirements, regulatory authorities could take actions against us, including:

- issuing warning letters;
- issuing fines and other civil penalties;
- suspending regulatory approvals;
- refusing to approve pending applications or supplements to approved applications;
- suspending product sales, imports and/or exports;
- requiring us to communicate with physicians and other customers about concerns related to actual or potential safety, efficacy, and other issues involving our products;
- mandating product recalls; and
- seizing products.

Furthermore, the FDA, the EMEA and comparable foreign regulatory agencies may require post-marketing clinical trials or patient outcome studies. We have agreed with the FDA, for example, to a number of post-marketing commitments as a condition to U.S. marketing approval for Fabrazyme, Aldurazyme, Myozyme, Clolar and Mozobil. In addition, regulatory agencies subject a marketed therapy, its manufacturer and the manufacturer's facilities to continual review and periodic inspections. The discovery of previously unknown problems with a therapy or the facility or process used to produce the therapy could prompt a regulatory authority to impose restrictions on us, or could cause us to voluntarily adopt such restrictions, including withdrawal of one or more of our products or services from the market. For example, we received a warning letter from the FDA in September 2007 that addressed certain of our manufacturing procedures in our Thymoglobulin production facility in Lyon. The FDA has accepted our response to that warning letter. In February 2009, we received a warning letter from the FDA related to inspectional observations by the FDA at our Allston, Massachusetts facility, considered to be significant deviations from compliance with "Good Manufacturing Practices." We are currently reviewing that warning letter and plan to respond to the FDA in writing.

If regulatory authorities fail to approve pending applications in a timely matter, our results of operations will suffer.

We expect regulatory action on several matters during the next 12 months. For example, we anticipate regulatory action on our marketing application for alglucosidase alfa produced at the 2000L scale in the United States; our marketing application for Mozobil in Europe; the expansion of labeling for clofarabine to include the treatment of adults with AML in the United States and Europe; our marketing application for Renvela in Europe and a label expansion of Renvela in the United States to include the treatment of CKD patients not on dialysis.

Regulatory authorities denying or delaying these approvals would adversely impact our projected revenue and income growth. A regulatory authority may deny or delay an approval because it was not satisfied with the structure or conduct of clinical trials or due to its assessment of the data we supply. A regulatory authority, for instance, may not believe that we have adequately established a product's risk-benefit profile or adequately addressed negative safety signals. Clinical data are subject to varied interpretations, and regulatory authorities may disagree with our assessments of our data. In any such case, a regulatory authority could insist that we provide additional data, which could substantially delay or even prevent commercialization efforts, particularly if we are required to conduct additional pre-approval clinical studies. In addition, the FDA has failed to act on pending marketing applications by the response dates prescribed in the Prescription Drug User Fee Act. We have encountered delays

in marketing in the United States for alglucosidase alfa produced at the 2000L scale, which has adversely impacted our financial results and resulted in a very tight product supply, and we could face additional delays with this product or other products.

The current credit and financial market conditions may exacerbate certain risk affecting our business.

Sales of our products are dependent, in part, on the availability and extent of reimbursement from third party payers, including governments and private insurance plans. As a result of the current volatility in the financial markets, third-party payers may delay payment or be unable to satisfy their reimbursement obligations. A reduction in the availability or extent of reimbursement could negatively affect our product sales and revenue.

In addition, we rely upon third parties for certain aspects of our business, including collaboration partners, wholesale distributors for our products, contract clinical trial providers, contract manufacturers, and third-party suppliers. Because of the recent tightening of global credit and the volatility in the financial markets, there may be a delay or disruption in the performance or satisfaction of commitments to us by these third parties, which could adversely affect our business.

We may incur substantial costs as a result of litigation or other proceedings.

A third party may sue us or one of our strategic collaborators for infringing the third party's patent or other intellectual property rights. Likewise, we or one of our strategic collaborators may sue to enforce intellectual property rights or to determine the scope and validity of third party proprietary rights. If we do not prevail in this type of litigation, we or our strategic collaborators may be required to:

- pay monetary damages;
- stop commercial activities relating to the affected products or services;
- obtain a license in order to continue manufacturing or marketing the affected products or services; or
- compete in the market with a different product or service.

We are also currently involved in litigation matters and investigations that do not involve intellectual property claims and may be subject to additional actions in the future. For example, the federal government, state governments and private payors are investigating and have filed actions against numerous pharmaceutical and biotechnology companies, including Genzyme, alleging that the companies have overstated prices in order to inflate reimbursement rates. Domestic and international enforcement authorities also have instituted actions under healthcare "fraud and abuse" laws, including anti-kickback and false claims statutes. Moreover, individuals who use our products or services, including our diagnostic products and genetic testing services, sometimes bring product and professional liability claims against us or our subsidiaries.

Some of our products are prescribed by healthcare providers for uses not approved by the FDA, the EMEA or comparable regulatory agencies. Although healthcare providers may lawfully prescribe our products for off-label uses, any promotion by us of off-label uses would be unlawful. Some of our practices intended to make healthcare providers aware of off-label uses of our products without engaging in off-label promotion could nonetheless be construed as off-label promotion. Although we have policies and procedures in place designed to help assure ongoing compliance with regulatory requirements regarding off-label promotion, some non-compliant actions may nonetheless occur. Regulatory authorities could take enforcement action against us if they believe we are promoting, or have promoted, our products for off-label use.

We have only limited amounts of insurance, which may not provide coverage to offset a negative judgment or a settlement payment. We may be unable to obtain additional insurance in the future, or we may be unable to do so on favorable terms. Our insurers may dispute our claims for coverage. For example, we have submitted claims to our insurers for reimbursement of portions of the expenses incurred in connection with the litigation and settlement related to the consolidation of our tracking stock and are seeking coverage for the settlement. The insurers have purported to deny coverage. Any additional insurance we do obtain may not provide adequate coverage against any asserted claims.

Regardless of merit or eventual outcome, investigations and litigation can result in:

- the diversion of management's time and attention;
- the expenditure of large amounts of cash on legal fees, expenses, and payment of damages;
- limitations on our ability to continue some of our operations;
- decreased demand for our products and services; and
- injury to our reputation.

Our international sales, clinical activities, manufacturing and other operations are subject to the economic, political, legal and business environments of the countries in which we do business, and our failure to operate successfully or adapt to changes in these environments could cause our international sales and operations to be limited or disrupted.

Our international operations accounted for approximately 51% of our consolidated product and service revenues for the year ended December 31, 2008. We expect that international product and service sales will continue to account for a significant percentage of our revenues for the foreseeable future. In addition, we have direct investments in a number of subsidiaries outside of the United States. Our international sales and operations could be limited or disrupted, and the value of our direct investments may be diminished, by any of the following:

- economic problems that disrupt foreign healthcare payment systems;
- the imposition of governmental controls, including foreign exchange and currency restrictions;
- less favorable intellectual property or other applicable laws;
- the inability to obtain any necessary foreign regulatory or pricing approvals of products in a timely manner;
- the inability to obtain third party reimbursement support for products;
- product counterfeiting and intellectual property piracy;
- parallel imports;
- anti-competitive trade practices;
- import and export license requirements;
- political instability;
- terrorist activities, armed conflict, or a pandemic;
- restrictions on direct investments by foreign entities and trade restrictions;
- changes in tax laws and tariffs;
- difficulties in staffing and managing international operations; and
- longer payment cycles.

Our operations and marketing practices are also subject to regulation and scrutiny by the governments of the countries in which we operate. In addition, the United States Foreign Corrupt Practices Act prohibits U.S. companies and their representatives from offering, promising, authorizing or making payments to foreign officials for the purpose of obtaining or retaining business abroad. Failure to comply with domestic or foreign laws could result in various adverse consequences, including possible delay in the approval or refusal to approve a product, recalls, seizures, withdrawal of an approved product from the market, and/or the imposition of civil or criminal sanctions.

We may fail to adequately protect our proprietary technology, which would allow competitors or others to take advantage of our research and development efforts.

Our long-term success largely depends on our ability to market technologically competitive products. If we fail to obtain or maintain adequate intellectual property protection in the United States or abroad, we may not be able to prevent third parties from using our proprietary technologies. Our currently pending or future patent applications may not result in issued patents. Patent applications are typically confidential for 18 months following their earliest filing, and because third parties may have filed patent applications for technology covered by our pending patent applications without us being aware of those applications, our patent applications may not have priority over patent applications of others. In addition, our issued patents may not contain claims sufficiently broad to protect us against third parties with similar technologies or products, or provide us with any competitive advantage. If a third party initiates litigation regarding our patents, our collaborators' patents, or those patents for which we have license rights, and is successful, a court could declare our patents invalid or unenforceable or limit the scope of coverage of those patents. Governmental patent offices and courts have not always been consistent in their interpretation of the scope and patentability of the subject matter claimed in biotechnology patents. Any changes in, or unexpected interpretations of, the patent laws may adversely affect our ability to enforce our patent position.

We also rely upon trade secrets, proprietary know-how, and continuing technological innovation to remain competitive. We attempt to protect this information with security measures, including the use of confidentiality agreements with employees, consultants, and collaborators. These individuals may breach these agreements and any remedies available to us may be insufficient to compensate for our damages. Furthermore, our trade secrets, know-how and other technology may otherwise become known or be independently discovered by our competitors.

Some of our products may face competition from lower cost generic or follow-on products.

Some of our drug products, for example Renagel, Renvela, Hectorol, Clolar and Mozobil, are approved under the provisions of the United States Food, Drug and Cosmetic Act that render them susceptible to potential competition from generic manufacturers via the Abbreviated New Drug Application (ANDA) procedure. Generic manufacturers pursuing ANDA approval are not required to conduct costly and time-consuming clinical trials to establish the safety and efficacy of their products; rather, they are permitted to rely on the innovator's data regarding safety and efficacy. Thus, generic manufacturers can sell their products at prices much lower than those charged by the innovative pharmaceutical or biotechnology companies who have incurred substantial expenses associated with the research and development of the drug product.

The ANDA procedure includes provisions allowing generic manufacturers to challenge the effectiveness of the innovator's patent protection long prior to the generic manufacturer actually commercializing their products—the so-called "Paragraph IV" certification procedure. In recent years, generic manufacturers have used Paragraph IV certifications extensively to challenge the applicability of Orange Book-listed patents on a wide array of innovative pharmaceuticals, and we expect this trend to continue and to implicate drug products with even relatively modest revenues.

Renagel, Renvela and Hectorol are subjects of ANDAs containing Paragraph IV certifications. Renagel is the subject of three ANDAs containing Paragraph IV certifications. One of the ANDAs contains a Paragraph IV certification that relates only to one of our Orange Book-listed patents, namely our patent that covers features of our tablet dosage form. This patent expires in 2020, and the ANDA applicant alleged that its proposed product would not infringe that patent. We reviewed the Paragraph IV certification and did not initiate patent infringement litigation within the 45-day statutory period. The other two ANDA applications contain Paragraph IV certifications challenging additional aspects of the Renagel patent estate, including patents that expire in 2014 and 2013. Specifically, one ANDA applicant seeks to market its generic product prior to the expiration of all of Genzyme's Orange Book-listed patents, while another seeks to market its generic product only after the expiration of Genzyme's Orange Book-listed patents that expire in 2013. We are evaluating these ANDA applications and associated legal issues in advance of our March 2009 deadlines to initiate patent litigation and trigger the statutory 30-month stay of FDA approval for the ANDA. Renvela is the subject of an ANDA in which the applicant has submitted a Paragraph IV certification seeking to market a generic sevelamer carbonate product after the expiration of Genzyme's Orange Book-listed patents that expire in 2013. We also are evaluating this ANDA application and associated legal issues in advance of our April 2009 deadline to trigger the 30-month statutory stay.

In the case of Hectorol, the ANDA applicant has submitted a Paragraph IV certification alleging the invalidity of our patent related to the use of Hectorol to treat hyperparathyroidism secondary to end-stage renal disease (which patent expires in 2014), and alleging non-infringement of our patent covering our highly purified form of Hectorol (which patent expires in 2021). We initiated patent infringement litigation in February 2008, triggering the stay of FDA approval for the ANDA. We believe that our patents are valid. A trial on the merits is scheduled for April 2010. The ANDA applicant also has submitted a Paragraph IV certification alleging the invalidity of our patent that claims specific aspects of our Hectorol vial formulation. We are evaluating the merits of their position in advance of our April 2009 deadline for triggering the 30-month statutory stay.

Other of our products, including Cerezyme, Fabrazyme, Aldurazyme, Myozyme and Campath (so-called "biotech drugs") are not currently considered susceptible to an abbreviated approval procedure, either due to current United States law or FDA practice in approving biologic products. However, the United States Congress is expected to continue to explore, and ultimately enact, legislation that would establish a procedure for the FDA to accept ANDA-like abbreviated applications for the approval of "follow-on," "biosimilar" or "comparable" biotech drugs. Such legislation has already been adopted in the European Union.

If either of the ANDA filers or any other generic manufacturer were to receive approval to sell a generic or follow-on version of one of our products, that product would become subject to increased competition and our revenues for that product would be adversely affected.

We may be required to license patents from competitors or others in order to develop and commercialize some of our products and services, and it is uncertain whether these licenses would be available.

Third party patents may cover some of the products or services that we or our strategic partners are developing or producing. A patent is entitled to a presumption of validity and accordingly, we face significant hurdles in any challenge to a patent. In addition, even if we are successful in challenging the validity of a patent, the challenge itself may be expensive and require significant management attention.

To the extent valid third party patent rights cover our products or services, we or our strategic collaborators would be required to seek licenses from the holders of these patents in order to manufacture, use or sell these products and services, and payments under them would reduce our profits from these products and services. We may not be able to obtain these licenses on favorable

terms, or at all. If we fail to obtain a required license or are unable to alter the design of our technology to fall outside the scope of a third party patent, we may be unable to market some of our products and services, which would limit our profitability.

Legislative or regulatory changes may adversely impact our business.

The United States government and other governments have shown significant interest in pursuing healthcare reform. Any government-adopted reform measures could adversely impact:

- the pricing of healthcare products and services in the United States or internationally; and
- the amount of reimbursement available from governmental agencies or other third party payors.

New laws, regulations and judicial decisions, or new interpretations of existing laws, regulations and decisions, that relate to healthcare availability, methods of delivery or payment for products and services, or sales, marketing or pricing may cause our revenue to decline, and we may need to revise our research and development programs. The pricing and reimbursement environment for our products may change in the future and become more challenging due to among other reasons, policies advanced by the new presidential administration in the United States, new healthcare legislation or fiscal challenges faced by government health administration authorities.

On September 27, 2007, the Food and Drug Administration Amendments Act of 2007 was enacted, giving the FDA enhanced post-market authority, including the authority to require post-marketing studies and clinical trials, labeling changes based on new safety information, and compliance with risk evaluations and mitigation strategies approved by the FDA. The FDA's exercise of its new authority could result in delays or increased costs during the period of product development, clinical trials and regulatory review and approval, increased costs to assure compliance with new post-approval regulatory requirements, and potential restrictions on the sale and/or distribution of approved products.

If our strategic alliances are unsuccessful, our operating results will be negatively impacted.

Several of our strategic initiatives involve alliances with other biotechnology and pharmaceutical companies. The success of these arrangements is largely dependent on technology and other intellectual property contributed by our strategic partners or the resources, efforts, and skills of our partners. Disputes and difficulties in such relationships are common, often due to conflicting priorities or conflicts of interest. Merger and acquisition activity may exacerbate these conflicts. The benefits of these alliances are reduced or eliminated when strategic partners:

- terminate the agreements covering the strategic alliance or limit our access to the underlying intellectual property;
- fail to devote financial or other resources to the alliances and thereby hinder or delay development, manufacturing or commercialization activities;
- fail to successfully develop, manufacture or commercialize any products; or
- fail to maintain the financial resources necessary to continue financing their portion of the development, manufacturing, or commercialization costs of their own operations.

Furthermore, payments we make under these arrangements may exacerbate fluctuations in our financial results. In addition, under some of our strategic alliances, we make upfront and milestone payments well in advance of commercialization of products with no assurance that we will ever recoup these payments. We also may make equity investments in our strategic partners, as we did with Isis Pharmaceuticals, Inc. in February 2008 and RenaMed Biologics, Inc., or RenaMed, in June 2005. Our strategic equity investments are subject to market fluctuations, access to capital and other business events, such as initial public offerings, the completion of clinical trials and regulatory approvals, which

can impact the value of these investments. For example, in October 2006, RenaMed suspended clinical trials of its renal assist device which was being developed to treat patients with acute renal failure, causing us to write off our entire investment in RenaMed. If other strategic equity investments decline in value and remain below cost for an extended duration, we may incur additional charges.

Our investments in marketable securities are subject to market, interest and credit risk that may reduce their value.

We maintain a significant portfolio of investments in marketable securities. Our earnings may be adversely affected by changes in the value of this portfolio. In particular, the value of our investments may be adversely affected by increases in interest rates, downgrades in the corporate bonds included in the portfolio, instability in the global financial markets that reduces the liquidity of securities included in the portfolio, and by other factors which may result in other than temporary declines in value of the investments. Each of these events may cause us to record charges to reduce the carrying value of our investment portfolio or sell investments for less than our acquisition cost. We attempt to mitigate these risks with the assistance of our investment advisors by investing in high quality securities and continuously monitoring the overall risk profile of our portfolio.

Importation of products may lower the prices we receive for our products.

In the United States and abroad, many of our products are subject to competition from lower-priced versions of our products and competing products from other countries where government price controls or other market dynamics result in lower prices for such products. Our products that require a prescription in the United States may be available to consumers in markets such as Canada, Mexico, Taiwan and the Middle East without a prescription, which may cause consumers to seek out these products in these lower priced markets. The ability of patients and other customers to obtain these lower priced imports has grown significantly as a result of the Internet, an expansion of pharmacies in Canada and elsewhere that target American purchasers, an increase in U.S.-based businesses affiliated with these Canadian pharmacies and other factors. Most of these foreign imports are illegal under current United States law. However, the volume of imports continues to rise due to the limited enforcement resources of the FDA and the United States Customs Service, and there is increased political pressure to permit such imports as a mechanism for expanding access to lower-priced medicines. The importation of lower-priced versions of our products into the United States and other markets adversely affects our profitability. This impact could become more significant in the future.

We may require significant additional financing, which may not be available to us on favorable terms, if at all.

As of December 31, 2008, we had $1.0 billion in cash, cash equivalents and short- and long-term investments, excluding our investments in equity securities.

We intend to use substantial portions of our available cash for:

- product development and marketing;
- business combinations and strategic business initiatives;
- the remaining $1.1 billion available under our ongoing stock repurchase program;
- upgrading our information technology systems;
- expanding existing and constructing new manufacturing facilities;
- contingent payments under license and other agreements, including payments related to our license of mipomersen from Isis, ataluren from PTC, and Prochymal and Chondrogen from

Osiris (for more information on these payments please read Note C., "Mergers, Acquisitions and Strategic Transactions," to our consolidated financial statements);

- expanding staff; and
- working capital and satisfaction of our obligations under capital and operating leases.

In addition, we have several outstanding legal proceedings. Involvement in investigations and litigation can be expensive and a court may ultimately require that we pay expenses and damages. As a result of legal proceedings, we may also be required to pay fees to a holder of proprietary rights in order to continue certain operations.

Recently, the general economic, global capital and credit market conditions in the United States and other parts of the world have deteriorated significantly and have adversely affected access to capital and increased the cost of capital. However, we continue to believe that our available cash, investments and cash flow from operations, together with our revolving credit facility and other available debt financing, will be adequate to meet our operating, investing and financing needs in the foreseeable future. We currently do not rely on short-term borrowing to fund our operations and, as a result, we do not believe that existing global capital and credit market conditions will have a significant impact on our near-term liquidity. We are closely monitoring our liquidity as well as the condition of these markets. If these conditions continue or become worse, our future cost of debt and equity capital and our future access to capital markets could be adversely affected. We cannot guarantee that we will be able to obtain any additional financing in the future or extend any existing financing arrangements on favorable terms, or at all.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Genzyme Corporation:

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations and comprehensive income, of cash flows and of stockholders' equity present fairly, in all material respects, the financial position of Genzyme Corporation and its subsidiaries at December 31, 2008 and 2007, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2008 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2008, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in "Management's Annual Report on Internal Control over Financial Reporting" appearing under Item 9A. Our responsibility is to express opinions on these financial statements and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

As discussed in Note O to the consolidated financial statements, in 2007 the Company changed its accounting for uncertain tax portions in accordance with Financial Accounting Standards Board Interpretation No. 48, "Accounting for Uncertainty in Income Taxes—an interpretation of FASB Statement No. 109."

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP

Boston, Massachusetts
February 27, 2009

GENZYME CORPORATION AND SUBSIDIARIES

Consolidated Statements of Operations and Comprehensive Income

(Amounts in thousands, except per share amounts)

	For the Years Ended December 31,		
	2008	2007	2006
Revenues:			
Net product sales	$4,196,907	$3,457,778	$2,887,409
Net service sales	366,091	326,326	282,118
Research and development revenue	42,041	29,415	17,486
Total revenues	4,605,039	3,813,519	3,187,013
Operating costs and expenses:			
Cost of products sold	913,267	715,504	536,388
Cost of services sold	235,295	211,826	199,283
Selling, general and administrative	1,338,190	1,187,184	1,010,400
Research and development	1,308,330	737,685	649,951
Amortization of intangibles	226,442	201,105	209,355
Purchase of in-process research and development	—	106,350	552,900
Charge for impaired intangible assets and goodwill	2,036	—	219,245
Total operating costs and expenses	4,023,560	3,159,654	3,377,522
Operating income (loss)	581,479	653,865	(190,509)
Other income (expenses):			
Equity in income of equity method investments	201	7,398	15,705
Minority interest	2,217	3,932	10,418
Gain (loss) on investments in equity securities, net	(3,340)	13,067	73,230
Other	(1,861)	(637)	(2,045)
Investment income	51,260	70,196	56,001
Interest expense	(4,418)	(12,147)	(15,478)
Total other income	44,059	81,809	137,831
Income (loss) before income taxes	625,538	735,674	(52,678)
(Provision for) benefit from income taxes	(204,457)	(255,481)	35,881
Net income (loss)	$ 421,081	$ 480,193	$ (16,797)
Net income (loss) per share:			
Basic	$ 1.57	$ 1.82	$ (0.06)
Diluted	$ 1.50	$ 1.74	$ (0.06)
Weighted average shares outstanding:			
Basic	268,490	263,895	261,624
Diluted	285,595	280,767	261,624
Comprehensive income (loss), net of tax:			
Net income (loss)	$ 421,081	$ 480,193	$ (16,797)
Other comprehensive income (loss):			
Foreign currency translation adjustments	(141,936)	149,425	130,500
Gain (loss) on affiliate sale of stock, net of tax	—	(72)	817
Pension liability adjustments, net of tax	5,772	1,056	(9,244)
Unrealized gains (losses) on securities, net of tax:			
Unrealized gains (losses) arising during the period, net of tax	5,039	18,050	41,504
Reclassification adjustment for gains included in net income (loss), net of tax	(6,742)	(8,586)	(45,065)
Unrealized gains (losses) on securities, net of tax	(1,703)	9,464	(3,561)
Other comprehensive income (loss)	(137,867)	159,873	118,512
Comprehensive income	$ 283,214	$ 640,066	$ 101,715

The accompanying notes are an integral part of these consolidated financial statements.

GENZYME CORPORATION AND SUBSIDIARIES

Consolidated Balance Sheets

(Amounts in thousands, except par value amounts)

	December 31, 2008	December 31, 2007
ASSETS		
Current assets:		
Cash and cash equivalents	$ 572,106	$ 867,012
Short-term investments	57,507	80,445
Accounts receivable, net	1,036,940	904,101
Inventories	453,437	439,115
Prepaid expenses and other current assets	208,040	166,817
Deferred tax assets	188,105	164,341
Total current assets	2,516,135	2,621,831
Property, plant and equipment, net	2,306,567	1,968,402
Long-term investments	344,078	512,937
Goodwill	1,401,074	1,403,828
Other intangible assets, net	1,654,698	1,555,652
Deferred tax assets	269,237	95,664
Investments in equity securities	83,325	89,181
Other noncurrent assets	96,162	66,880
Total assets	$8,671,276	$8,314,375
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 127,869	$ 128,380
Accrued expenses	765,386	645,645
Deferred revenue	13,462	13,277
Current portion of long-term debt and capital lease obligations	7,566	696,625
Total current liabilities	914,283	1,483,927
Long-term debt and capital lease obligations	124,341	113,748
Deferred revenue—noncurrent	13,175	16,662
Other noncurrent liabilities	313,484	87,101
Total liabilities	1,365,283	1,701,438
Commitments and contingencies (Note N)		
Stockholders' equity:		
Preferred stock, $0.01 par value	—	—
Common stock, $0.01 par value	2,707	2,660
Additional paid-in capital	5,780,753	5,385,154
Notes receivable from stockholders	(1,474)	(15,670)
Accumulated earnings	1,247,796	826,715
Accumulated other comprehensive income	276,211	414,078
Total stockholders' equity	7,305,993	6,612,937
Total liabilities and stockholders' equity	$8,671,276	$8,314,375

The accompanying notes are an integral part of these consolidated financial statements.

GENZYME CORPORATION AND SUBSIDIARIES

Consolidated Statements of Cash Flows

(Amounts in thousands)

	For the Years Ended December 31,		
	2008	2007	2006
Cash Flows from Operating Activities:			
Net income (loss)	$ 421,081	$ 480,193	$ (16,797)
Reconciliation of net income (loss) to cash flows from operating activities:			
Depreciation and amortization	374,664	338,196	331,389
Stock-based compensation	187,596	190,070	208,614
Provision for bad debts	12,983	9,665	10,050
Purchase of in-process research and development	—	106,350	552,900
Charge for impaired tangible and intangible assets	2,036	—	219,245
Equity in income of equity method investments	(201)	(7,398)	(15,705)
Minority interest	(2,217)	(3,932)	(10,418)
(Gains) losses on investments in equity securities, net	3,340	(13,067)	(73,230)
Deferred income tax benefit	(195,200)	(106,140)	(279,795)
Tax benefit from employee stock-based compensation	59,868	51,041	46,174
Excess tax benefits from stock-based compensation	(18,445)	(13,575)	(7,114)
Other	4,285	5,131	(3,433)
Increase (decrease) in cash from working capital changes (excluding impact of acquired assets and assumed liabilities):			
Accounts receivable	(137,273)	(105,230)	(120,505)
Inventories	(4,700)	(15,011)	(37,632)
Prepaid expenses and other current assets	12,142	(23,897)	(19,784)
Income taxes payable	(87,390)	(132,314)	50,123
Accounts payable, accrued expenses and deferred revenue	126,606	158,590	54,487
Cash flows from operating activities	759,175	918,672	888,569
Cash Flows from Investing Activities:			
Purchases of investments	(420,867)	(779,932)	(913,159)
Sales and maturities of investments	608,994	985,546	926,327
Purchases of equity securities	(88,656)	(21,994)	(7,577)
Proceeds from sales of investments in equity securities	8,594	20,712	140,165
Purchases of property, plant and equipment	(597,562)	(412,872)	(333,675)
Acquisitions, net of acquired cash	(16,561)	(342,456)	(568,953)
Distributions from equity method investments	4,844	17,100	19,800
Payment of note receivable from Dyax	—	7,771	—
Purchases of other intangible assets	(92,183)	(60,350)	(105,348)
Other	11,857	(4,581)	6,008
Cash flows from investing activities	(581,540)	(591,056)	(836,412)

The accompanying notes are an integral part of these consolidated financial statements.

GENZYME CORPORATION AND SUBSIDIARIES

Consolidated Statements of Cash Flows (Continued)

(Amounts in thousands)

	For the Years Ended December 31,		
	2008	2007	2006
Cash Flows from Financing Activities:			
Proceeds from issuance of common stock	318,753	285,762	158,305
Repurchases of our common stock	(143,012)	(231,576)	—
Excess tax benefits from stock-based compensation	18,445	13,575	7,114
Payments of debt and capital lease obligations	(693,961)	(5,909)	(4,501)
Increase (decrease) in bank overdrafts	25,760	(5,910)	(21,124)
Payments of notes receivable from stockholders	12,635	—	—
Minority interest contributions	1,345	3,979	11,153
Other	(6,208)	4,702	1,210
Cash flows from financing activities	(466,243)	64,623	152,157
Effect of exchange rate changes on cash	(6,298)	(17,397)	(4,104)
Increase (decrease) in cash and cash equivalents	(294,906)	374,842	200,210
Cash and cash equivalents at beginning of period	867,012	492,170	291,960
Cash and cash equivalents at end of period	$ 572,106	$ 867,012	$492,170
Supplemental disclosures of cash flows:			
Cash paid during the year for:			
Interest, net of capitalized interest	$ 1,799	$ 5,490	$ 11,990
Income taxes	$ 427,591	$ 447,566	$154,729
Supplemental disclosures of non-cash transactions:			
Mergers, Acquisitions and Strategic Transactions—Note C.			
Property, Plant and Equipment—Note G.			
Capital lease obligation for Genzyme Center—Note L.			
Long-Term Debt—Note L.			

We did not complete any acquisitions in 2008. In conjunction with acquisitions completed in 2007 and 2006, as described in Note C., "Mergers, Acquisitions and Strategic Transactions," we assumed the following liabilities (amounts in thousands):

	For the Years Ended December 31,	
	2007	2006
Net cash paid for acquisitions and acquisition costs	$(342,456)	$(568,953)
Fair value of assets acquired	226,579	13,202
Accrual for dissenting shares	(16,128)	—
Acquired in-process research and development	125,500	552,900
Goodwill	100,393	30,177
Liabilities for exit activities and integration	(2,671)	(6,348)
Income taxes payable	(72,461)	—
Net deferred tax assets (liabilities)	(8,210)	2,067
Net liabilities assumed	$ 10,546	$ 23,045

The accompanying notes are an integral part of these consolidated financial statements.

GENZYME CORPORATION AND SUBSIDIARIES

Consolidated Statements of Stockholders' Equity

(Amounts in thousands)

	Common Stock		Additional Paid-In Capital	Notes Receivable from Stockholders	Accumulated Earnings (Deficit)	Accumulated Other Comprehensive Income	Total Stockholders' Equity
	Shares	Par Value					
Balance, January 1, 2006	259,151	$2,592	$4,687,776	$(14,445)	$ 329,456	$144,488	$5,149,867
Stock issued through stock option and stock purchase plans	3,875	38	158,267	—	—	—	158,305
Tax benefit from stock option exercises	—	—	46,174	—	—	—	46,174
Stock-based compensation	—	—	215,419	—	—	—	215,419
Change in unrealized gains and losses on investments, net of tax(1)	—	—	—	—	—	(3,561)	(3,561)
Gain on affiliate sale of stock, net of tax(2)	—	—	—	—	—	817	817
Foreign currency translation adjustments	—	—	—	—	—	130,500	130,500
Pension liability adjustment, net of tax(3)	—	—	—	—	—	(8,564)	(8,564)
Adoption of FAS 158, net of tax(4)	—	—	—	—	—	(8,795)	(8,795)
Other	—	—	(1,362)	(612)	—	(680)	(2,654)
Net loss	—	—	—	—	(16,797)	—	(16,797)
Balance, December 31, 2006	263,026	2,630	5,106,274	(15,057)	312,659	254,205	5,660,711
Stock issued through stock option and stock purchase plans	6,482	65	285,697	—	—	—	285,762
Tax benefit from stock option exercises	—	—	27,654	—	—	—	27,654
Stock-based compensation	—	—	189,661	—	—	—	189,661
Adoption of FIN 48	—	—	6,933	—	33,863	—	40,796
Repurchases of our common stock	(3,500)	(35)	(231,541)	—	—	—	(231,576)
Foreign currency translation adjustments	—	—	—	—	—	149,425	149,425
Change in unrealized gains and losses on investments, net of tax(1)	—	—	—	—	—	9,464	9,464
Gain on affiliate sale of stock, net of tax(2)	—	—	—	—	—	(72)	(72)
Pension liability adjustment, net of tax(3)	—	—	—	—	—	1,056	1,056
Other	—	—	476	(613)	—	—	(137)
Net income	—	—	—	—	480,193	—	480,193
Balance, December 31, 2007	266,008	2,660	5,385,154	(15,670)	826,715	414,078	6,612,937
Stock issued through stock option and stock purchase plans	6,682	67	318,686	—	—	—	318,753
Tax benefit from stock option exercises	—	—	31,526	—	—	—	31,526
Stock-based compensation	—	—	187,596	—	—	—	187,596
Repurchases of common stock	(2,000)	(20)	(142,992)	—	—	—	(143,012)
Conversion of our convertible senior notes	40	—	2,825	—	—	—	2,825
Payments of notes receivable from stockholders	(26)	—	(1,974)	14,609	—	—	12,635
Foreign currency translation adjustments	—	—	—	—	—	(141,936)	(141,936)
Change in unrealized gains and losses on investments, net of tax(1)	—	—	—	—	—	(1,703)	(1,703)
Pension liability adjustment, net of tax(3)	—	—	—	—	—	5,772	5,772
Other	—	—	(68)	(413)	—	—	(481)
Net income	—	—	—	—	421,081	—	421,081
Balance, December 31, 2008	270,704	$2,707	$5,780,753	$ (1,474)	$1,247,796	$276,211	$7,305,993

(1) Net of $1.0 million of tax in 2008, $(5.2) million of tax in 2007 and $2.1 million of tax in 2006.

(2) Net of $(0.1) million of tax in 2007 and $(0.3) million of tax in 2006.

(3) Net of $3.8 million of tax in 2006. Tax amounts for 2007 and 2008 were not significant.

(4) Net of $3.7 million of tax in 2006.

The accompanying notes are an integral part of these consolidated financial statements.

NOTE A. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Description of Business

We are a global biotechnology company dedicated to making a major impact on the lives of people with serious diseases. Our broad product and service portfolio is focused on rare disorders, renal disease, orthopaedics, cancer, transplant and immune disease, and diagnostic and predictive testing.

In the fourth quarter of 2008, we changed our segment reporting structure to better reflect the way we manage and measure the performance of our businesses. Under the new reporting structure, we are organized into four financial reporting units, which we also consider to be our reporting segments:

- Genetic Diseases, which develops, manufactures and distributes therapeutic products, with an expanding focus on products to treat patients suffering from genetic diseases and other chronic debilitating diseases, including a family of diseases known as LSDs. The unit derives substantially all of its revenue from sales of Cerezyme, Fabrazyme, Myozyme and Aldurazyme;
- Cardiometabolic and Renal, which develops, manufactures and distributes products that treat patients suffering from renal diseases, including chronic renal failure, and endocrine and cardiovascular diseases. The unit derives substantially all of its revenue from sales of Renagel/ Renvela (including sales of bulk sevelamer), Hectorol and Thyrogen;
- Biosurgery, which develops, manufactures and distributes biotherapeutics and biomaterial-based products, with an emphasis on products that meet medical needs in the orthopaedics and broader surgical areas. The unit derives substantially all of its revenue from sales of Synvisc, the Sepra line of products, Carticel and MACI; and
- Hematologic Oncology, which develops, manufactures and distributes products for the treatment of cancer. The unit derives substantially all of its revenue from sales and royalties received on sales of Campath and clofarabine. This unit also includes Mozobil, which received marketing approval in the United States in December 2008. Clofarabine is marketed under the name Clolar in North and South America and as Evoltra elsewhere in the world.

Our transplant business unit, which develops, manufactures and distributes therapeutic products that address pre-transplantation, prevention and treatment of graft rejection in organ transplantation and other hematologic and auto-immune disorders, and our genetics business unit, which provides testing services for the oncology, prenatal and reproductive markets, were formerly reported as separate reporting segments. Beginning with this report, we now include our transplant and genetics business units under the caption "Other." We also report the activities of our diagnostic products, bulk pharmaceuticals and immune mediated disease business units under the caption "Other." These operating segments did not meet the quantitative threshold for separate reporting.

We report our corporate, general and administrative operations and corporate science activities under the caption "Corporate." Effective January 1, 2008, as a result of changes in how we review our business, certain general and administrative expenses that were formerly allocated amongst our reporting segments and "Other" are now allocated to "Corporate."

We have reclassified our 2007 and 2006 segment disclosures to conform to our 2008 presentation.

Basis of Presentation and Principles of Consolidation

Our consolidated financial statements include the accounts of our wholly owned and majority owned subsidiaries. We also consolidate certain variable interest entities for which we are the primary

beneficiary. For consolidated subsidiaries in which we own less than 100% interest, we record minority interest in our statements of operations for the ownership interest of the minority owner. We use the equity method to account for investments in entities in which we have a substantial ownership interest (20% to 50%) which do not require consolidation pursuant to FIN 46, or over which we exercise significant influence. Our consolidated net income includes our share of the earnings and losses of these entities. All intercompany accounts and transactions have been eliminated in consolidation. We have reclassified certain 2007 and 2006 data to conform to our 2008 presentation.

Dividend Policy

We have never paid a cash dividend on shares of our stock. We currently intend to retain our earnings to finance future growth and do not anticipate paying any cash dividends on our stock in the foreseeable future.

Use of Estimates

Under accounting principles generally accepted in the United States of America, we are required to make certain estimates and assumptions that affect reported amounts of assets, liabilities, revenues and expenses, and disclosure of contingent assets and liabilities in our consolidated financial statements. Our actual results could differ from these estimates.

Cash and Cash Equivalents

We value our cash and cash equivalents at cost plus accrued interest, which we believe approximates their market value. Our cash equivalents consist principally of money market funds at December 31, 2008 but can consist of corporate, government, agency, and municipal notes with original maturities of three months or less at any time. We generally invest our cash in investment-grade securities to mitigate risk.

Investments

We can invest our excess cash balances on a global basis in short-term and long-term marketable debt securities, which can consist of corporate, government, agency and municipal notes. As part of our strategic relationships, we may also invest in equity securities of other biotechnology companies, some of which are currently, or have been in the past, considered related parties. Other investments are accounted for as described below.

We classify all of our marketable equity investments as available-for-sale. We classify our investments in marketable debt securities as either held-to-maturity or available-for-sale based on facts and circumstances present at the time we purchase the securities. As of each balance sheet date presented, we classified all of our investments in debt securities as available-for-sale. We report available-for-sale investments at fair value as of each balance sheet date and include any unrealized holding gains and losses (the adjustment to fair value) in stockholders' equity. Realized gains and losses are determined on the specific identification method and are included in investment income. If any adjustment to fair value reflects a decline in the value of the investment, we consider all available evidence to evaluate the extent to which the decline is "other than temporary" and mark the investment to market through a charge to our statement of operations. Investments in equity securities for which fair value is not readily determinable or which are subject to trading restrictions for more than one year are carried at cost, subject to review for impairment. We classify our investments with remaining maturities of twelve months or less as short-term investments exclusive of those categorized as cash equivalents. We classify our investments with remaining maturities of greater than twelve months as long-term investments, unless we expect to sell the investment in less than 1 year.

For additional information on our investments, please read Note I., "Investments in Marketable Securities and Strategic Equity Investments," and Note J., "Equity Method Investments."

Inventories

We value inventories at cost or, if lower, fair value. We determine cost using the first-in, first-out method.

We analyze our inventory levels quarterly and write down to its net realizable value:

- inventory that has become obsolete;
- inventory that has a cost basis in excess of its expected net realizable value;
- inventory in excess of expected requirements; and
- expired inventory.

We capitalize inventory produced for commercial sale, which may result in the capitalization of inventory prior to regulatory approval or prior to approval of a manufacturing facility. In no event is inventory capitalized prior to completion of a phase 3 clinical trial. If a product is not approved for sale or a manufacturing facility does not receive approval, it would likely result in the write-off of the inventory and a charge to earnings.

Property, Plant and Equipment

We record property, plant and equipment at cost. When we dispose of these assets, we remove the related cost and accumulated depreciation and amortization from the related accounts on our balance sheet and include any resulting gain or loss in our statement of operations.

We generally compute depreciation using the straight-line method over the estimated useful lives of the assets. We compute economic lives as follows:

- plant and equipment—three to fifteen years;
- furniture and fixtures—five to seven years; and
- buildings—twenty to forty years.

We evaluate the remaining life and recoverability of this equipment periodically based on the appropriate facts and circumstances.

We amortize leasehold improvements and assets under capital leases over their useful life or, if shorter, the term of the applicable lease.

We capitalize certain computer software and software development costs incurred in connection with developing or obtaining computer software for internal use. Capitalized software costs are included in property, plant and equipment, net on our consolidated balance sheet and amortized on a straight-line basis over the estimated useful lives of the software, which generally do not exceed 10 years.

For products we expect to commercialize, we capitalize, to construction-in-progress, the costs we incur in validating facilities and equipment. We begin this capitalization when the validation process begins, provided that the product to be manufactured has demonstrated technological feasibility, and end this capitalization when the asset is substantially complete and ready for its intended use. These capitalized costs include incremental labor and direct material, and interest. We depreciate these costs using the straight-line method.

Costs of idle production facilities, including related depreciation, are charged directly to cost of products sold.

Goodwill and Other Intangible Assets

Our intangible assets consist of:

- goodwill;
- purchased technology rights;
- patents, trademarks and trade names;
- license fees;
- distribution rights;
- customer lists; and
- covenants not to compete.

We are required to perform impairment tests related to our goodwill under FAS 142 annually and whenever events or changes in circumstances suggest that the carrying value of an asset may not be recoverable. We complete our annual impairment test in the third quarter of each year.

We amortize intangible assets using the straight-line method over their estimated useful lives, which range between 1 and 15 years or, using the economic use method if that method results in significantly greater amortization than the straight-line method.

For certain acquired intangible assets, we may be required to make additional payments contingent upon meeting certain sales targets. We record amortization expense for these intangibles based on estimated future sales of the related products and include in the determination of amortization all contingent payments that we believe are probable of being made. We apply this amortization model to our Synvisc distribution rights (acquired from Wyeth), our license agreement with Synpac related to Myozyme patent and technology rights. We review the sales forecasts of these products on a quarterly basis and assess the impact changes in the forecasts have on the rate of amortization and the likelihood that contingent payments will be made. Adjustments to amortization expense resulting from changes in estimated sales are reflected prospectively.

Accounting for the Impairment of Long-Lived Assets

We periodically evaluate our long-lived assets for potential impairment under FAS 144. We perform these evaluations whenever events or changes in circumstances suggest that the carrying amount of an asset or group of assets is not recoverable. Indicators of potential impairment include:

- a significant change in the manner in which an asset is used;
- a significant decrease in the market value of an asset;
- a significant adverse change in its business or the industry in which it is sold; and
- a current period operating cash flow loss combined with a history of operating or cash flow losses or a projection or forecast that demonstrates continuing losses associated with the asset.

If we believe an indicator of potential impairment exists, we test to determine whether impairment recognition criteria in FAS 144 have been met. We charge impairments of the long-lived assets to operations if our evaluations indicate that the carrying value of these assets is not recoverable.

Translation of Foreign Currencies

We translate the financial statements of our foreign subsidiaries from local currency into U.S. dollars using:

- the current exchange rate at each balance sheet date for assets and liabilities;
- the average exchange rate prevailing during each period for revenues and expenses; and
- the historical exchange rate for our investments in our foreign subsidiaries.

We consider the local currency for all of our foreign subsidiaries to be the functional currency for that subsidiary. As a result, we include translation adjustments for these subsidiaries in stockholders' equity. We also record in stockholders' equity, exchange gains and losses on intercompany balances that are of a long-term investment nature. Our stockholders' equity includes net cumulative foreign currency translation gains of $263.1 million at December 31, 2008 and $411.0 million at December 31, 2007. Gains and losses, net of tax, on all other foreign currency transactions, including gains and losses attributable to foreign currency forward contracts, are included in SG&A in our results of operations and were a net loss of $(18.3) million for fiscal year 2008, a net gain of $5.8 million for fiscal year 2007 and a net gain of $7.8 million for fiscal year 2006.

Derivative Instruments

FAS 133, "Accounting for Derivative Instruments and Hedging Activities," establishes accounting and reporting standards for derivative instruments, including certain derivative instruments embedded in other contracts, and for hedging activities. It requires that we recognize all derivative instruments as either assets or liabilities in our consolidated balance sheets and measure those instruments at fair value. Subsequent changes in fair value are reflected in current earnings or other comprehensive income (loss), depending on whether a derivative instrument is designated as part of a hedge relationship and, if it is, the type of hedge relationship.

Defined Benefit Plan Accounting

FAS 158, "Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans—an amendment of FASB Statements No. 87, 88, 106 and 132(R)," requires us to recognize the overfunded or underfunded status of any pension or other postretirement plans we may have as a net asset or a net liability on our statement of financial position and to recognize changes in that funded status in the year in which the changes occur as an adjustment to accumulated other comprehensive income in stockholders' equity. Currently, we have defined benefit pension plans for certain of our foreign subsidiaries and a defined benefit postretirement plan for one of our U.S. subsidiaries, which has been frozen since 1995 and is not significant. Under FAS 158, actuarial gains and losses, prior service costs or credits, and any remaining transition assets or obligations that have not been recognized for our defined benefit pension plans under previous accounting standards must be recognized in accumulated other comprehensive income, net of tax effects, until they are amortized as a component of net periodic benefit cost. In addition, FAS 158 requires that the measurement date, which is the date at which the benefit obligation and plan assets are measured, be as of our fiscal year end, which is December 31.

Accounting for our defined benefit plans requires management make certain assumptions relating to the following:

- long-term rate of return on plan assets;
- discount rates used to measure future obligations and interest expense;
- salary scale inflation rates; and
- other assumptions based on the terms of each individual plan.

We obtained actuarial reports to compute the amounts of liabilities and expenses relating to the majority of our plans subject to the assumptions that management selects as of the beginning of the plan year. Management reviews the long-term rate of return, discount, and salary scale inflation on an annual basis and makes modifications to the assumptions based on current rates and trends as appropriate.

Revenue Recognition

We recognize revenue from product sales when persuasive evidence of an arrangement exists, the product has been shipped, title and risk of loss have passed to the customer and collection from the customer is reasonably assured. We recognize revenue from service sales, such as Carticel services and genetic testing services, when we have finished providing the service. We recognize the revenue from the contracts to perform research and development services and selling and marketing services over the term of the applicable contract and as we complete our obligations under that contract. We recognize non-refundable, up-front license fees over the related performance period or when we have no remaining performance obligations.

Revenue from milestone payments for which we have no continuing performance obligations is recognized upon achievement of the related milestone. When we have continuing performance obligations, the milestone payments are deferred and recognized as revenue over the term of the arrangement as we complete our performance obligations.

We evaluate revenue from agreements that have multiple elements to determine whether the components of the arrangement represent separate units of accounting as defined in EITF Issue No. 00-21, "Revenue Arrangements with Multiple Deliverables." To recognize a delivered item in a multiple element arrangement, EITF Issue No. 00-21 requires that the delivered items have value to the customer on a stand alone basis, that there is objective and reliable evidence of fair value of the undelivered items and that delivery or performance is probable and within our control for any delivered items that have a right of return.

We follow the guidance of EITF Issue No. 99-19, "Reporting Revenue Gross as a Principal versus Net as an Agent" in the presentation of revenues and direct costs of revenues. This guidance requires us to assess whether we act as a principal in the transaction or as an agent acting on behalf of others. We record revenue transactions gross in our statements of operations if we are deemed the principal in the transaction, which includes being the primary obligor and having the risks and rewards of ownership.

We receive royalties related to the manufacture, sale or use of our products or technologies under license arrangements with third parties. For those arrangements where royalties are reasonably estimable, we recognize revenue based on estimates of royalties earned during the applicable period and adjust for differences between the estimated and actual royalties in the following quarter. Historically, these adjustments have not been material. For those arrangements where royalties are not reasonably estimable, we recognize revenue upon receipt of royalty statements from the licensee.

We record allowances for product returns, rebates payable to Medicaid, managed care organizations or customers, chargebacks and sales discounts. These allowances are recorded as a reduction to revenue at the time product sales are recorded. These amounts are based on our historical activity, estimates of the amount of product in the distribution channel and the percent of end-users covered by Medicaid or managed care organizations. We record consideration paid to a customer or reseller of our products as a reduction of revenue unless we receive an identifiable and separable benefit for the consideration, and we can reasonably estimate the fair value of the benefit received. If both conditions are met, we record the consideration paid to the customer as an expense.

We maintain allowances for doubtful accounts for estimated losses resulting from the inability of our customers to make required payments. If the financial condition of our customers was to deteriorate and result in an impairment of their ability to make payments, additional allowances may be required.

Stock-Based Compensation

All stock-based awards to non-employees are accounted for at their fair value in accordance with FAS 123R and EITF Issue No. 96-18, "Accounting for Equity Instruments that are Issued to Other than Employees for Acquiring, or in Conjunction with Selling, Goods or Services." FAS 123R applies to stock options granted under our employee and director stock option plans, purchases made under our ESPP, and to any restricted stock or RSUs.

We adopted FAS 123R using the modified prospective transition method, which requires us to apply the standard to new equity awards and to equity awards modified, repurchased or cancelled after January 1, 2006, our adoption date. Compensation expense for the unvested portion of awards granted prior to our adoption date is:

- recognized over the requisite service period, which is generally commensurate with the vesting term; and
- based on the original grant date fair value of those awards, as calculated in our pro forma disclosures, prior to January 1, 2006, under FAS 123. Changes to the grant date fair value of equity awards granted prior to our adoption date are not permitted under FAS 123R.

Research and Development

We expense internal and external research and development costs, including costs of funded research and development arrangements, in the period incurred. We also expense the cost of purchased technology in the period of purchase if we believe that the technology has not demonstrated technological feasibility and that it does not have an alternative future use.

Income Taxes

We use the asset and liability method of accounting for deferred income taxes. We are subject to income taxes in both the United States and numerous foreign jurisdictions; however, our most significant tax jurisdictions are the U.S. federal and states. Significant judgments, estimates and assumptions regarding future events, such as the amount, timing and character of income, deductions and tax credits, are required in the determination of our provision for income taxes and whether valuation allowances are required against deferred tax assets. These judgments, estimates and assumptions involve:

- interpreting the tax laws in various jurisdictions in which we operate;
- analyzing changes in tax laws, regulations, and treaties, foreign currency exchange restrictions; and
- estimating our levels of income, expenses and profits in each jurisdiction and the potential impact of that income on the tax liability in any given year.

We operate in many jurisdictions where the tax laws relating to the pricing of transactions between related parties are open to interpretation, which could potentially result in tax authorities asserting additional tax liabilities with no offsetting tax recovery in other countries.

Effective January 1, 2007, we adopted the provisions of FIN 48, which clarifies the accounting for income tax positions by prescribing a minimum recognition threshold that a tax position is required to

meet before being recognized in the financial statements. FIN 48 also provides guidance on the derecognition of previously recognized deferred tax items, measurement, classification, interest and penalties, accounting in interim periods, disclosure and transition. Under FIN 48, we recognize the tax benefit from an uncertain tax position only if it is more likely than not the tax position will be sustained based on the technical merits of the tax position. The tax benefits recognized in our consolidated financial statements from such a position are measured on the largest amount, using the cumulative probability measure, which is likely to be ultimately realized. For more information regarding the impact the adoption of FIN 48 had on our results of operations, financial condition and liquidity, see Note O., "Income Taxes," included in this report.

We continue to recognize interest relating to unrecognized tax benefits within our provision for income taxes but have not recorded any amounts related to potential penalties. The amounts of accrued interest related to unrecognized tax benefits within our provision for income taxes for the years ended December 31, 2008 and 2007 were not significant.

Comprehensive Income (Loss)

Comprehensive income (loss) consists of net income or loss and all changes in equity from non-shareholder sources, including changes in unrealized gains and losses on investments, foreign currency translation adjustments and liabilities for pension obligations, net of taxes.

Net Income (Loss) Per Share

To calculate base earnings per share, we divide our earnings by the weighted average number of outstanding shares during the applicable period. To calculate diluted earnings per share, we also include in the denominator all potentially dilutive securities outstanding during the applicable period unless inclusion of such securities is anti-dilutive.

Recent Accounting Pronouncements

The following table shows recently issued accounting pronouncements and our position for adoption:

FASB Pronouncements	Relevant Requirements of FASB Pronouncements	Issued Date/ Our Effective Dates	Status
FAS 159, "The Fair Value Option for Financial Assets and Financial Liabilities, Including an Amendment of FASB Statement No. 115."	Permits, but does not require, entities to measure certain financial instruments and other assets and liabilities at fair value on an instrument-by-instrument basis. Unrealized gains and losses on items for which the fair value option has been elected should be recognized in earnings at each subsequent reporting date.	Issued February 2007. Adopted January 2008.	We did not elect to measure any new assets or liabilities at their respective fair values and, therefore, the adoption of FAS 159 did not have an impact on our consolidated financial statements.
EITF Issue No. 07-1, "Accounting for Collaborative Arrangements."	Defines collaborative arrangements and establishes reporting requirements for transactions between participants in a collaborative arrangement and between participants in the arrangement and third parties, including the appropriate income statement presentation and classification of, and the required disclosures related to, these arrangements.	Issued November 2007. Effective January 1, 2009, to be applied retrospectively for collaborative arrangements existing as of the effective date.	EITF Issue No. 07-1 is not expected to have a material impact on our consolidated financial statements.

FASB Pronouncements	Relevant Requirements of FASB Pronouncements	Issued Date/ Our Effective Dates	Status
FAS 141 (revised 2007), "Business Combinations."	Modifies and prescribes new requirements for accounting for business combinations. Among other things, acquisition costs will be expensed as incurred; restructuring costs will be expensed subsequent to the acquisition date; non-controlling interests will be valued at fair value; IPR&D will be recorded at fair value as an indefinite lived intangible asset; contingent purchase price payments will be measured at the acquisition date and re-measured in subsequent periods with an adjustment to earnings; and changes in deferred tax asset valuation allowances and income tax uncertainties after the acquisition will affect income tax expense.	Issued December 2007. Effective on a prospective basis for all business combinations for which the acquisition date is on or after January 1, 2009.	FAS 141 (revised 2007) standards will be applied prospectively to business combinations after January 1, 2009, and will significantly change our accounting and reporting of future business combination transactions.
FAS No. 160, "Noncontrolling Interests in Consolidated Financial Statements—an amendment of ARB No. 51."	Requires ownership interests in subsidiaries, not held by the parent, to be clearly identified in the consolidated statement of financial position within equity, but separate from the parent's equity, and the minority interest in net income needs to be identified on the consolidated statement of income. Additional disclosures are required.	Issued December 2007. Effective January 1, 2009, prospectively. Disclosure requirements to be applied retrospectively.	FAS No. 160 is not expected to have a material impact on our consolidated financial statements.

NOTE B. NET INCOME (LOSS) PER SHARE

The following table sets forth our computation of basic and diluted net income (loss) per share (amounts in thousands, except per share amounts):

	For the Years Ended December 31,		
	2008	2007	2006
Net income (loss)	$421,081	$480,193	$(16,797)
Effect of dilutive securities:			
Interest expense and debt fee amortization, net of tax, related to our 1.25% convertible senior notes	6,915	7,543	—
Net income (loss)—diluted	$427,996	$487,736	$(16,797)
Shares used in computing net income (loss) per common share—basic	268,490	263,895	261,124
Effect of dilutive securities(1):			
Shares issuable upon the assumed conversion of our 1.25% convertible senior notes	8,851	9,686	—
Stock options(2)	7,286	7,039	—
Restricted stock units	700	11	—
Other	268	136	—
Dilutive potential common shares	17,105	16,872	—
Shares used in computing net income (loss) per common share—diluted(1,2)	285,595	280,767	261,124
Net income (loss) per share:			
Basic	$ 1.57	$ 1.82	$ (0.06)
Diluted	$ 1.50	$ 1.74	$ (0.06)

(1) For the year ended December 31, 2006, basic and diluted net loss per share are the same. We did not include the securities described in the following table in the computation of diluted net loss per share because these securities would have an anti-dilutive effect due to our net loss for the period (amounts in thousands):

	For the Year Ended December 31, 2006
Shares issuable upon the assumed conversion of our 1.25% convertible senior notes	9,686
Shares issuable for options	6,881
Other	11
Total shares excluded from the computation of diluted loss per share	16,578

(2) We did not include the securities described in the following table in the computation of diluted income (loss) per share because these securities were anti-dilutive during each such period (amounts in thousands):

	For the Years Ended December 31,		
	2008	2007	2006
Shares of Genzyme Stock issuable upon exercise of outstanding options	3,816	12,262	11,840

NOTE C. MERGERS, ACQUISITIONS AND STRATEGIC TRANSACTIONS

We classify nonrefundable fees paid outside of a business combination for the acquisition or licensing of products that have not received regulatory approval and have no future alternative use as research and development expense.

2008:

Strategic Alliance with Osiris

In October 2008, we entered into a strategic alliance with Osiris, whereby we obtained an exclusive license to develop and commercialize Prochymal and Chondrogen, mesenchymal stem cell products, outside of the United States and Canada. Osiris will commercialize Prochymal and Chondrogen in the United States and Canada. We paid Osiris a nonrefundable upfront payment of $75.0 million in November 2008, and will pay an additional $55.0 million nonrefundable upfront license fee on July 1, 2009. The results of these programs are included in our immune mediated disease business unit, which are reported under the category "Other" in our segment disclosures.

Osiris will be responsible for completing, at its own expense, all clinical trials of Prochymal for the treatment of GvHD and Crohn's disease, both of which are in phase 3 trials, and clinical trials of Prochymal and Chondrogen through phase 2 for all other indications. Osiris will be responsible for 60% and we will be responsible for 40% of the clinical trial costs for phase 3 and 4 clinical trials of Prochymal (other than for the treatment of GvHD and Crohn's disease) and Chondrogen. Osiris is eligible to receive:

- up to $500.0 million in development and regulatory milestone payments for all indications of Prochymal and up to $100.0 million for Chondrogen, unless we elect to opt out of further development of Chondrogen; and
- up to $250.0 million in sales milestones for all indications of Prochymal and up to $400.0 million in sales milestones for all indications of Chondrogen for the prevention and treatment of conditions of articulating joints.

Osiris is also eligible to receive tiered royalties from us on sales of Prochymal and Chondrogen outside of the United States and Canada.

Strategic Alliance with PTC

On July 15, 2008, we entered into a collaboration agreement with PTC to develop and commercialize ataluren, PTC's novel oral therapy in late-stage development for the treatment of DMD and CF. Under the terms of the agreement, PTC will commercialize ataluren in the United States and Canada, and we will commercialize the treatment in all other countries. In connection with the collaboration agreement, we paid PTC a nonrefundable upfront payment of $100.0 million, which we recorded as a charge to research and development expense for our Genetic Diseases segment in our consolidated statements of operations during the third quarter of 2008. At its own expense, PTC will conduct and be responsible for the phase 2b trial of ataluren in DMD, the phase 2b trial of ataluren in CF and two proof-of-concept studies in other indications to be determined. Once these four studies have been completed, we and PTC will share research and development costs for ataluren equally. We and PTC will each bear the sales and marketing and other costs associated with the commercialization of ataluren in our respective territories. PTC is eligible to receive up to $337.0 million in milestone payments as follows:

- up to $165.0 million in development and approval milestones, the majority of which would be paid upon the receipt of approvals obtained outside of the United States and Canada; and

- up to $172.0 million in sales milestones, commencing if and when annual net sales for ataluren outside of the United States and Canada reach $300.0 million and increasing in increments through revenues of $2.4 billion.

PTC is also eligible to receive tiered royalties from sales of ataluren outside of the United States and Canada. The results of our ataluren program are included in the results of our Genetic Diseases segment disclosures.

Strategic Alliance with Isis

On January 7, 2008, we entered into a strategic alliance with Isis, whereby we obtained an exclusive, worldwide license to develop and commercialize mipomersen, a lipid-lowering drug targeting apolipoprotein B-100, which is currently being developed for the treatment of FH, an inherited disorder that causes exceptionally high levels of LDL-cholesterol. In February 2008, we made a nonrefundable payment to Isis of $150.0 million, of which $80.1 million was recorded as an other noncurrent asset on our consolidated balance sheets based on the fair value of the five million shares of Isis common stock we acquired in connection with the transaction. Due to certain trading restrictions, we classify this investment as other noncurrent assets. We allocated the remaining $69.9 million to the mipomersen license, which we recorded as a charge to research and development expense in our consolidated statements of operations during the first quarter of 2008.

In June 2008, we finalized the terms of our license and collaboration agreement with Isis and paid Isis an additional $175.0 million upfront nonrefundable license fee. Under the terms of the agreement, Isis will be responsible, at its own expense, for up to $125.0 million for the development of mipomersen. Thereafter, we and Isis will share development costs for mipomersen equally. The initial funding commitment by Isis and shared development funding would end when the mipomersen program is profitable. In the event the research and development of mipomersen is terminated prior to Isis completing their funding obligation, we are not entitled to any refund of our $175.0 million upfront payment. Isis is eligible to receive up to $750.0 million in commercial milestone payments and up to $825.0 million in development and regulatory milestone payments.

We will be responsible for funding sales and marketing expenses until mipomersen revenues are sufficient to cover such costs. Profits on mipomersen initially will be allocated 70% to us and 30% to Isis. The profit ratio would be adjusted on a sliding scale if and as annual revenues for mipomersen ramp up to $2.0 billion, at which point we would share profits equally with Isis. The results of our mipomersen program are included in the results of our cardiovascular business unit, which are reported in our Cardiometabolic and Renal segment disclosures.

2007:

Diagnostic Assets of DCL

On December 3, 2007, we acquired certain diagnostic assets from DCL, a privately-held diagnostics and biopharmaceutical company based in Charlottetown, Prince Edward Island, Canada, including DCL's line of over 50 formulated clinical chemistry reagents and its diagnostics operations in Prince Edward Island, Canada and Connecticut. We paid gross consideration of $53.3 million Canadian dollars, or $53.8 million U.S. dollars (based on the December 3, 2007 spot rate for the Canadian dollar), in cash. We accounted for the acquisition as a business combination and accordingly, included its results of operations in our consolidated statements of operations from December 3, 2007, the date of acquisition.

Bioenvision

Effective October 23, 2007, we completed our acquisition of Bioenvision through the culmination of a two-step process consisting of a tender offer completed in July 2007, and a merger approved in October 2007. We paid gross consideration of $349.9 million in cash, including $345.4 million for the outstanding shares of Bioenvision common and preferred stock and options to purchase shares of Bioenvision common stock, and approximately $5 million for acquisition costs. The acquisition of Bioenvision provided us with the rights to clofarabine outside North America.

In connection with the merger, holders of 2,880,000 shares of Bioenvision common stock, representing less than 5% of the outstanding shares of Bioenvision common stock on an as-converted basis immediately before the merger became effective, submitted written demands for appraisal of their shares and elected not to accept the $5.60 per share merger consideration. We referred to these holders as dissenters. In September 2008, the appraisal demand was resolved with substantially all of the dissenters for a total of $16.6 million in cash, consisting of the merger price paid to all other Bioenvision stockholders, plus interest accrued. In total, we paid gross consideration of $366.5 million in cash, including $362.0 million for the outstanding shares of Bioenvision common stock and preferred stock and options to purchase shares of Bioenvision common stock.

2006:

Our 2006 acquisition of AnorMED was accounted for as business combination and, accordingly, we included the results of operations of AnorMED beginning on the date of acquisition. The purchase price was allocated to the tangible and intangible assets acquired and liabilities assumed based on their estimated fair values as of the date of acquisition. The excess of the purchase price over the estimated fair value of the assets acquired and liabilities assumed amounted to $32.3 million, which was allocated to goodwill. We expect that substantially all of the amount allocated to goodwill will be deductible for tax purposes.

Purchase Price Allocation Table

The purchase price for each of our 2007 and 2006 acquisitions was allocated to the estimated fair value of the acquired tangible and intangible assets and assumed liabilities as of the date of each acquisition as follows (amounts in thousands):

	Year Ended December 31, 2007			Year Ended December 31, 2006
	DCL	Bioenvision	Total	AnorMED
Total purchase price	$54,084	$349,941	$404,025	$589,173
Cash and cash equivalents	$ —	$ 45,186	$ 45,186	$ 20,220
Accounts receivable	2,618	5,537	8,155	—
Inventory	5,179	1,684	6,863	—
Other current assets	—	5,130	5,130	6,340
Property, plant and equipment	1,843	—	1,843	758
Goodwill	15,124	85,269	100,393	32,349
Other intangible assets(1,2,3)	29,827	172,441	202,268	3,500
In-process research and development	—	106,350	106,350	552,900
Deferred tax assets—noncurrent	40	—	40	28,336
Equity in net loss of Bioenvision pre-acquisition ownership	—	21,101	21,101	—
Other noncurrent assets	—	624	624	120
Assumed liabilities:				
Income taxes payable	—	(72,461)	(72,461)	—
Deferred tax liabilities	(421)	(7,829)	(8,250)	(25,288)
Liabilities for exit activities and integration	—	(2,671)	(2,671)	(8,882)
Other liabilities	(126)	(10,420)	(10,546)	(21,180)
Allocated purchase price	$54,084	$349,941	$404,025	$589,173

(1) The other intangible assets of $29.8 million from the acquisition of DCL, primarily represent the present value of future cash flows estimated to be generated from customer relationships.

(2) The other intangible assets of $172.4 million from the acquisition of Bioenvision, primarily represent the present value of future cash flows estimated to be generated from the developed and core technology of clofarabine.

(3) The other intangible assets of $3.5 million from the acquisition of AnorMED, primarily represent the present value of future cash flows estimated to be generated from the patents and products out-licensed to third parties.

In-Process Research and Development

We did not complete any business combination acquisitions in 2008. In connection with two acquisitions we completed between January 1, 2006 and December 31, 2007, we acquired various

IPR&D projects. The following table sets forth the significant IPR&D projects for companies and certain assets we have acquired between January 1, 2006 and December 31, 2007 (amounts in millions):

Company/Assets Acquired	Purchase Price	IPR&D	Programs Acquired	Discount Rate Used in Estimating Cash Flows	Year of Expected Launch
Bioenvision (2007) . . .	$349.9	$125.5	Evoltra (clofarabine)(1,2)	17%	2009-2013
AnorMED (2006)	$589.2	$526.8	Mozobil (stem cell transplant)(3)	15%	2009-2014
		26.1	AMD070 (HIV)(4)	15%	—
		$552.9			

(1) IPR&D charges totaled $125.5 million related to the acquisition of Bioenvision, of which $106.4 million was charged to IPR&D and $19.1 million was charged to equity in income of equity method investments.

(2) Clofarabine, which is approved for the treatment of relapsed and refractory pediatric ALL, is marketed under the name Clolar in North and South America and as Evoltra elsewhere in the world. The IPR&D projects for clofarabine are related to the development of the product for the treatment of other medical issues.

(3) Mozobil received marketing approval in the United States in December 2008 and our marketing application in Europe is pending.

(4) Year of expected launch is not provided for AMD070 at this time because we are assessing our future plans for this program.

Exit Activities

In connection with several of our acquisitions, we initiated integration plans to consolidate and restructure certain functions and operations, including the relocation and termination of certain personnel of these acquired entities and the closure of certain of the acquired entities' leased facilities. These costs have been recognized as liabilities assumed in connection with the acquisition of these entities in accordance with EITF Issue No. 95-3, "Recognition of Liabilities in Connection with a Purchase or Business Combination," and are subject to potential adjustments as certain exit activities

are confirmed or refined. The following table summarizes the liabilities established for exit activities related to these acquisitions (amounts in thousands):

	Employee Related Benefits	Closure of Leased Facilities	Other Exit Activities	Total Exit Activities
Balance at December 31, 2006	$ 6,105	$ 24	$ —	$ 6,129
Acquisition	2,601	—	70	2,671
Revision of estimates	(931)	2,593	—	1,662
Payments	(5,602)	(453)	—	(6,055)
Balance at December 31, 2007	2,173	2,164	70	4,407
Revision of estimates	191	—	—	191
Payments	(1,960)	(787)	(70)	(2,817)
Balance at December 31, 2008(1)	$ 404	$1,377	$ —	$ 1,781

(1) We expect to pay employee related benefits related to the acquisition of AnorMED through the third quarter of 2009 and make payments related to the closing of the leased facility through January 2012.

Pro Forma Financial Summary (Unaudited)

The following pro forma financial summary is presented as if the acquisition of Bioenvision was completed as of January 1, 2007 and 2006, and as if the acquisition of AnorMED was completed as of January 1, 2006. The pro forma combined results are not necessarily indicative of the actual results that would have occurred had the acquisition been consummated on that date, or of the future operations of the combined entities. Material nonrecurring charges related to these acquisitions, such as IPR&D charges, are included in the pro forma financial summary for the year in which the acquisition occurred and the year prior to acquisition only. Specifically, the pro forma financial summary includes:

- for 2007 and 2006, IPR&D charges totaling $125.5 million related to the acquisition of Bioenvision, of which $106.4 million was charged to IPR&D and $19.1 million was charged to equity in income of equity method investments; and
- for 2006, $552.9 million of IPR&D charges related to the acquisition of AnorMED.

We did not complete any acquisitions in 2008. The following table provides our pro forma summary for the years ended December 31, 2007 and 2006 (amounts in thousands, except per share amounts):

	2007	2006
Total revenues	$3,824,600	$3,205,422
Net income (loss)	$ 457,675	$ (167,545)
Net income (loss) per share:		
Basic	$ 1.73	$ (0.64)
Diluted	$ 1.66	$ (0.64)
Weighted average shares outstanding:		
Basic	263,895	261,124
Diluted	280,767	261,124

Pro forma results are not presented for the acquisition of assets from DCL for the years ended December 31, 2007 and 2006 because this acquisition did not have a material effect on our results of operations in those periods.

NOTE D. DERIVATIVE FINANCIAL INSTRUMENTS

We periodically enter into foreign currency forward contracts, all of which have a maturity of less than three years. These contracts have not been designated as hedges and accordingly, unrealized gains or losses on these contracts are reported in current earnings. The notional settlement value of foreign currency forward contracts outstanding was $349.5 million at December 31, 2008, $347.1 million at December 31, 2007 and $455.1 million at December 31, 2006. These contracts had a fair value of $(1.4) million at December 31, 2008, $(15.1) million at December 31, 2007 and $(1.5) million at December 31, 2006, all representing unrealized losses and were recorded in SG&A in our consolidated statements of operations and in accrued expenses in our consolidated balance sheets for the periods presented.

NOTE E. ACCOUNTS RECEIVABLE

Our trade receivables primarily represent amounts due from distributors, healthcare service providers, and companies and institutions engaged in research, development or production of pharmaceutical and biopharmaceutical products. We perform credit evaluations of our customers on an ongoing basis and generally do not require collateral. Accounts receivable are booked net of certain allowances for bad debts, chargebacks and prompt pay discounts. The allowances were $40.4 million at December 31, 2008 and $40.3 million at December 31, 2007.

NOTE F. INVENTORIES

	December 31,	
	2008	2007
	(Amounts in thousands)	
Raw materials	$ 96,986	$120,409
Work-in-process	141,094	130,812
Finished goods	215,357	187,894
Total	$453,437	$439,115

We capitalize inventory produced for commercial sale, which may result in the capitalization of inventory prior to regulatory approval. If a product is not approved for sale, it would result in the write off of the inventory and a charge to earnings. Our total inventories at December 31, 2008, included $9.2 million of Myozyme and $3.5 million of Campath inventory, produced at our manufacturing facility in Belgium, that have not yet been approved for sale.

NOTE G. PROPERTY, PLANT AND EQUIPMENT

	December 31,	
	2008	2007
	(Amounts in thousands)	
Plant and equipment	$ 879,933	$ 846,974
Land and buildings	1,006,140	931,916
Leasehold improvements	246,468	265,242
Furniture and fixtures	63,241	62,238
Construction in progress	1,015,497	698,824
	3,211,279	2,805,194
Less accumulated depreciation	(904,712)	(836,792)
Property, plant and equipment, net	$2,306,567	$1,968,402

Our total depreciation expense was $148.4 million in 2008, $137.1 million in 2007 and $122.0 million in 2006.

Our property, plant and equipment includes the following amounts for assets subject to capital leases (amounts in thousands):

	December 31, 2008
Building—Corporate headquarters in Cambridge, Massachusetts	$131,031
Less accumulated depreciation	(46,407)
Assets subject to capital leases, net	$ 84,624

We capitalize costs we have incurred in validating manufacturing equipment and facilities for products which have reached technological feasibility in plant and equipment. Capitalized validation costs, net of accumulated depreciation, were $32.9 million at December 31, 2008 and $15.5 million at December 31, 2007.

Net capitalized software costs, which are included in plant and equipment, totaled $25.8 million at December 31, 2008 and $15.5 million at December 31, 2007. Capitalized software development costs, a component of construction in progress, were $89.8 million at December 31, 2008 and $43.0 million at December 31, 2007.

We have capitalized the following amounts of interest costs (amounts in millions):

For the Years Ended December 31,		
2008	2007	2006
$19.0	$14.5	$9.2

As of December 31, 2008, the estimated remaining cost to complete our assets under construction is approximately $1.0 billion.

Under certain lease agreements for our worldwide facilities, we are contractually obligated to return leased space to its original condition upon termination of the lease agreement. At the inception of a lease with such conditions, we record an asset retirement obligation liability and a corresponding capital asset in an amount equal to the estimated fair value of the obligation. In subsequent periods, for each such lease, we record interest expense to accrete the asset retirement obligation liability to full value and depreciate each capitalized asset retirement obligation asset, both over the term of the associated lease agreement. Our asset retirement obligations were not significant as of December 31, 2008 or 2007.

NOTE H. GOODWILL AND OTHER INTANGIBLE ASSETS

Goodwill

In 2008, we changed our segment reporting structure to better reflect the way we manage and measure the performance of our business. As a result of this change, goodwill of $244.2 million was transferred from the Hematologic Oncology reporting segment to Other and goodwill of $15.9 million was transferred from the Genetic Diseases reporting segment to the Cardiometabolic and Renal reporting segment based on their relative fair value. Prior year balances were adjusted to conform to our 2008 presentation.

The following table contains the change in our goodwill during the year ended December 31, 2008 (amounts in thousands):

	As of December 31, 2007	Adjustments	As of December 31, 2008
Genetic Diseases	$ 339,563	$ —	$ 339,563
Cardiometabolic and Renal	319,882	—	319,882
Biosurgery	7,585	—	7,585
Hematologic Oncology(1)	321,328	750	322,078
Other(2)	415,470	(3,504)	411,966
Goodwill	$1,403,828	$(2,754)	$1,401,074

(1) Adjustments to Hematologic Oncology include immaterial purchase accounting adjustments from the acquisition of Bioenvision in 2007.

(2) The adjustments to Other primarily include foreign currency revaluation adjustments for goodwill denominated in foreign currency.

We are required to perform impairment tests related to our goodwill under FAS 142 annually, which we perform in the third quarter of each year, and whenever events or changes in circumstances suggest that the carrying value of an asset may not be recoverable. For 2008 and 2007, we completed the required annual impairment tests for our $1.4 billion and $1.3 billion of goodwill that had been recorded as of September 30, 2008 and 2007, and determined that no impairment charge was required.

Other Intangible Assets

The following table contains information about our other intangible assets for the periods presented (amounts in thousands):

	As of December 31, 2008			As of December 31, 2007		
	Gross Other Intangible Assets	Accumulated Amortization	Net Other Intangible Assets	Gross Other Intangible Assets	Accumulated Amortization	Net Other Intangible Assets
Technology(1)	$1,919,074	$ (692,235)	$1,226,839	$1,680,190	$(545,817)	$1,134,373
Patents	194,560	(121,763)	72,797	194,560	(104,413)	90,147
Trademarks	60,556	(42,194)	18,362	60,634	(36,787)	23,847
License fees(2)	98,123	(39,824)	58,299	90,237	(28,833)	61,404
Distribution rights(3)	399,768	(170,892)	228,876	307,260	(125,678)	181,582
Customer lists	83,729	(34,271)	49,458	97,031	(33,209)	63,822
Other	2,039	(1,972)	67	2,050	(1,573)	477
Total	$2,757,849	$(1,103,151)	$1,654,698	$2,431,962	$(876,310)	$1,555,652

(1) Effective January 1, 2008, reflects the consolidation of the results of BioMarin/Genzyme LLC at fair value in accordance with FIN 46R including $240.2 million for the fair value of the manufacturing and commercialization rights to Aldurazyme, net of $12.0 million of related accumulated amortization. This intangible asset is being amortized on a straight-line basis over a period of 20 years.

(2) Includes the accrual of a $10.0 million Myozyme sales milestone achieved in 2008 which will be paid in 2009 as required by our license agreement with Synpac.

(3) Includes an additional $92.5 million in 2008 and $39.1 million in 2007 for additional payments made or accrued in connection with the reacquisition of the Synvisc sales and marketing rights from Wyeth in January 2005. In addition, we will make a series of additional contingent royalty payments to Wyeth based on the volume of Synvisc sales in the covered territories. These contingent royalty payments could extend out to June 2012, or could total a maximum of $293.7 million, whichever comes first.

Net technology includes $4.0 million at December 31, 2008 related to the acquisition of certain gene therapy assets from Avigen in December 2005. We may be obligated to make up to approximately $38 million of potential milestone payments based on the development and approval of, and royalty payments based on the sale of, products developed between now and 2020 that rely on the intellectual property purchased from Avigen.

All of our other intangible assets are amortized over their estimated useful lives. The estimated future amortization expense for other intangible assets for the five succeeding fiscal years and thereafter is as follows (amounts in thousands):

Year Ended December 31,	Estimated Amortization Expense(1,2)
2009	$226,432
2010	244,373
2011	258,394
2012	200,508
2013	125,983
Thereafter	448,405

(1) Includes estimated future amortization expense for the Synvisc distribution rights based on the forecasted respective future sales of Synvisc and the resulting future contingent payments we will be required to make to Wyeth, and for the Myozyme patent and technology rights pursuant to a license agreement with Synpac based on forecasted future sales of Myozyme and the milestone payments we will be required to make to Synpac related to regulatory approvals. These contingent payments will be recorded as intangible assets when the payments are accrued. Estimated future amortization expense also includes estimated amortization for other arrangements involving contingent payments.

(2) Excludes future amortization expense related to the $240.2 million of technology recorded effective January 1, 2008, related to our consolidation of the results of BioMarin/Genzyme LLC, because such amortization is entirely offset by the corresponding amortization of a noncurrent liability related to the consolidation of BioMarin/Genzyme LLC.

NOTE I. INVESTMENTS IN MARKETABLE SECURITIES AND EQUITY INVESTMENTS

Fair Value Measurement—Definition and Hierarchy

Effective January 1, 2008, we implemented FAS 157 for our financial assets and liabilities that are re-measured and reported at fair value at each reporting period. The adoption of FAS 157 for our financial assets and liabilities did not have a material impact on our consolidated financial position and results of operations.

FAS 157 provides a framework for measuring fair value and requires expanded disclosures regarding fair value measurements. FAS 157 defines fair value as the price that would be received to sell an asset or paid to transfer a liability (i.e., the "exit price") in an orderly transaction between market participants at the measurement date. In determining fair value, FAS 157 permits the use of various valuation approaches, including market, income and cost approaches. FAS 157 establishes a

hierarchy for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the observable inputs be used when available.

The fair value hierarchy is broken down into three levels based on the reliability of inputs. We have categorized our fixed income, derivatives and equity securities within the hierarchy as follows:

- Level 1—These valuations are based on a "market approach" using quoted prices in active markets for identical assets. Valuations of these products do not require a significant degree of judgment. Assets utilizing Level 1 inputs include money market funds, U.S. government securities, bank deposits and exchange-traded equity securities;
- Level 2—These valuations are based primarily on a "market approach" using quoted prices in markets that are not very active, broker or dealer quotations, or alternative pricing sources with reasonable levels of price transparency. Fixed income assets utilizing Level 2 inputs include U.S. agency securities, including direct issuance bonds and mortgage-backed securities, asset-backed securities, corporate bonds and commercial paper. Derivative securities utilizing Level 2 inputs include forward foreign-exchange contracts; and
- Level 3—These valuations are based on various approaches using inputs that are unobservable and significant to the overall fair value measurement. Certain assets are classified within Level 3 of the fair value hierarchy because they trade infrequently and, therefore, have little or no transparency. We currently have no assets or liabilities that are valued with Level 3 inputs.

Valuation Techniques

Fair value is a market-based measure considered from the perspective of a market participant who would buy the asset or assume the liability rather than our own specific measure. All of our fixed income securities are priced using a variety of daily data sources, largely readily-available market data and broker quotes. To validate these prices, we compare the fair market values of our fixed income investments using market data from observable and corroborated sources. We also perform the fair value calculations for our derivative and equity securities using market data from observable and corroborated sources. In periods of market inactivity, the observability of prices and inputs may be reduced for certain instruments. This condition could cause an instrument to be reclassified from Level 1 to Level 2 or from Level 2 to Level 3.

The following table sets forth our financial assets and liabilities that were accounted for at fair value on a recurring basis as of December 31, 2008 (amounts in thousands):

Description			Total	Level 1	Level 2	Level 3
Fixed income investments(1):	Cash equivalents:	Money market funds/other	$357,680	$357,680	$ —	$ —
	Short-term investments:	U.S. Treasury notes	7,505	7,505	—	—
		U.S. agency notes	10,328	—	10,328	—
		Corporate notes—global	39,674	—	39,674	—
		Total	57,507	7,505	50,002	—
	Long-term investments:	U.S. Treasury notes	75,040	75,040	—	—
		Non U.S. Governmental notes	7,322	—	7,322	—
		U.S. agency notes	121,707	—	121,707	—
		Corporate notes—global	140,009	—	140,009	—
		Total	344,078	75,040	269,038	—
	Total fixed income investments		759,265	440,225	319,040	—
Derivatives:	Foreign exchange contracts(2)		(1,434)	—	(1,434)	—
Equity holdings(1):	Publicly-traded equity securities		56,596	56,596	—	—
Total assets (liabilities) at fair value			$814,427	$496,821	$317,606	$ —

(1) Changes in the fair value of our fixed income investments and investments in publicly-traded equity securities are recorded in accumulated other comprehensive income (loss), a component of stockholders' equity, in our consolidated balance sheets.

(2) As of December 31, 2008, the aggregate fair value of our foreign exchange contracts was an unrealized loss of $1.4 million, which we recorded as an increase to accrued expenses in our consolidated balance sheets as of that date. Changes in the fair value of our foreign exchange contracts are recorded in unrealized foreign exchange gains and losses, a component of SG&A in our consolidated statements of operations.

The carrying amounts reflected in our consolidated balance sheets for cash, accounts receivable, prepaid expenses and other current assets, accounts payable and accrued expenses approximate fair value due to their short-term maturities.

Marketable Securities (amounts in thousands):

	December 31,			
	2008		2007	
	Cost	Market Value	Cost	Market Value
Cash equivalents:				
Money market funds	$357,680	$357,680	$ 660,648	$ 660,648
Short-term investments:				
Corporate notes	41,457	39,674	47,095	47,114
U.S. Government agencies	10,260	10,328	33,303	33,331
U.S. Treasury notes	7,281	7,505	—	—
	58,998	57,507	80,398	80,445
Long-term investments:				
Corporate notes	143,674	140,009	274,861	274,862
U.S. Government agencies	117,143	121,707	132,464	133,979
Non U.S. Government notes	7,277	7,322	252	235
U.S. Treasury notes	71,110	75,040	101,758	103,861
	339,204	344,078	509,335	512,937
Total cash equivalents, short- and long-term investments	$755,882	$759,265	$1,250,381	$1,254,030
Investments in equity securities	$ 57,777	$ 83,325	$ 61,291	$ 89,181

The following table contains information regarding the range of contractual maturities of our cash equivalents and short- and long-term investments (amounts in thousands):

	December 31,			
	2008		2007	
	Cost	Market Value	Cost	Market Value
Within 1 year	$416,678	$415,187	$ 741,046	$ 741,093
1-2 years	323,196	328,588	175,433	175,016
2-10 years	16,008	15,490	333,902	337,921
	$755,882	$759,265	$1,250,381	$1,254,030

Investments in Equity Securities

The following table shows the investments in equity securities of unconsolidated entities as of December 31, 2008 and 2007 (amounts in thousands):

	December 31, 2008			December 31, 2007		
	Adjusted Cost	Market Value	Unrealized Gain/(Loss)	Adjusted Cost	Market Value	Unrealized Gain/(Loss)
Publicly-held companies(1,2):						
Dyax	$17,992	$18,090	$ 98	$17,992	$18,190	$ 198
ABIOMED, Inc(3)	12,185	37,893	25,708	12,185	35,861	23,676
Sirtris Pharmaceuticals, Inc	—	—	—	4,500	9,038	4,538
Other	871	613	(258)	2,156	1,634	(522)
Total publicly-held companies	31,048	56,596	25,548	36,833	64,723	27,890
Private equity funds(4)	18,684	18,684	—	21,953	21,953	—
Privately-held companies(5)	8,045	8,045	—	2,505	2,505	—
Total	$57,777	$83,325	$25,548	$61,291	$89,181	$27,890

(1) Marketable equity securities that have readily determinable market values are stated at market value. We record temporary unrealized gains and losses related to these investments in other comprehensive income (loss).

(2) On January 7, 2008, as part of our strategic alliance with Isis, we acquired five million shares of Isis common stock. Due to certain trading restrictions, we classify this investment, which had a carrying value of $80.1 million at December 31, 2008, as an other noncurrent asset. Our relationship with Isis is described in Note C., "Mergers, Acquisitions and Strategic Transactions," to these consolidated financial statements.

(3) We consider ABIOMED to be a related party because our chairman and chief executive officer is a director of ABIOMED. As of December 31, 2008, we held approximately 6% of the outstanding shares of ABIOMED common stock.

(4) Our investments in private equity funds are stated at adjusted cost basis and are periodically reviewed for impairment. For the year ended December 31, 2008, we recorded a charge of $5.3 million to write down our investments in certain venture capital funds, which we account for using the cost method of accounting because we consider them other than temporarily impaired. Our determination of the impairment charge was made using Level 3 measurements under FAS 157. Subsequent to December 31, 2008, these investments continue to be accounted for under the cost method of accounting and are subject to our ongoing reviews for impairment.

(5) Equity securities without readily determinable market values and for which we do not exercise significant influence are stated at cost and are periodically reviewed for impairment.

Unrealized Gains and Losses on Marketable Securities and Equity Investments

We record unrealized holding gains and losses, net of tax, related to our investments in marketable securities and equity investments, to the extent they are determined to be temporary, in stockholders' equity. The following table sets forth the gross amounts recorded (amounts in millions):

	December 31,	
	2008	2007
Unrealized holding gains	$35.1	$34.1
Unrealized holding losses	$ 6.3	$ 2.6

We also collaborate with or provide services to certain of the companies in which we hold or have held equity investments, including Dyax. Our relationship with Dyax is described below.

Dyax Corp.

In February 2007, we terminated our participation and interest in Dyax-Genzyme LLC, our joint venture with Dyax. In connection with this termination, we made a capital contribution of approximately $17 million in cash to Dyax-Genzyme LLC and Dyax purchased our interest in the joint venture for 4.4 million shares of Dyax common stock, valued at $16.9 million, based on the closing price of Dyax common stock on February 23, 2007. In August 2007, we received cash payments totaling $7.8 million from Dyax to settle the secured promissory note receivable from Dyax.

NOTE J. EQUITY METHOD INVESTMENTS

Our equity method investments are included in other noncurrent assets in our consolidated balance sheets and totaled $1.0 million at December 31, 2008 and $45.8 million at December 31, 2007.

The following tables describe:

- our portion of the net income (loss) of each equity method investment for the periods presented, which we have recorded as income (charges) to equity in income (loss) of equity method investments in our consolidated statements of operations (amounts in millions); and
- total net income (loss) of each equity method investment for the periods presented (amounts in millions).

	Our Portion of the Net Income (Loss) of Our Equity Method Investments			Total Income (Loss) of Our Equity Method Investments		
Equity Method Investment	2008	2007	2006	2008	2007	2006
BioMarin/Genzyme LLC	$ —	$ 30.1	$18.5	$ —	$60.2	$ 37.1
Bioenvision, Inc.(1)	—	(21.1)	—	—	(9.6)	—
Other	0.2	(1.6)	(2.8)	0.4	(9.4)	(17.2)
Totals	$ 0.2	$ 7.4	$15.7	$ 0.4	$41.2	$ 19.9

(1) For the period from July 10, 2007 through October 22, 2007, we accounted for our initial investment in Bioenvision Common Stock under the equity method of accounting. We completed the acquisition of Bioenvision effective October 23, 2007.

Condensed financial information for our equity method investees, excluding Bioenvision, is summarized below in aggregate (amounts in thousands):

	For the Years Ended December 31,		
	2008	2007	2006
Revenue	$ —	$124,203	$ 97,060
Gross profit	—	97,092	72,642
Operating expenses	326	(46,656)	(53,931)
Net income	370	50,866	19,865

	December 31,	
	2008	2007
Current assets	$1,585	$109,936
Noncurrent assets	—	1,098
Current liabilities	351	15,359
Noncurrent liabilities	—	4,168

BioMarin/Genzyme LLC

Through December 31, 2007, our portion of the net income of BioMarin/Genzyme LLC was included in equity in income of equity method investments in our consolidated statements of operations. Effective January 1, 2008, we restructured the relationship regarding the manufacturing and commercialization of Aldurazyme by entering into several new agreements. BioMarin/Genzyme LLC will no longer engage in commercial activities related to Aldurazyme and will solely:

- hold the intellectual property relating to Aldurazyme and other collaboration products; and
- engage in research and development activities that are mutually selected and funded by BioMarin and us, the costs of which will be shared equally.

Under the restructured relationship, BioMarin/Genzyme LLC will license all intellectual property relating to Aldurazyme and other collaboration products on a royalty-free basis to BioMarin and us. BioMarin will hold the manufacturing rights and we will hold the global marketing rights. We will pay BioMarin a tiered payment ranging from 39.5% to 50% of worldwide net product sales of Aldurazyme.

As a result of the restructuring of our relationship with BioMarin/Genzyme LLC, effective January 1, 2008, in accordance with the provisions of FIN 46R, we began consolidating the results of BioMarin/Genzyme LLC. Upon consolidation of BioMarin/Genzyme LLC, we recorded the assets and liabilities of the joint venture in our consolidated balance sheets at fair value. The value of the intellectual property of the joint venture of approximately $480.5 million was recorded as an intangible asset in our consolidated balance sheets. The consolidation also included a corresponding noncurrent liability for the same amount which represented the encumbered value of the intellectual property which had been outlicensed to us and Biomarin for no consideration. The intangible asset and noncurrent liability are being amortized over a period of 20 years. We recorded BioMarin's portion of the joint venture's losses, the amount of which was not significant for the year ended December 31, 2008, as minority interest in our consolidated statements of operations.

During the quarter ended December 31, 2008, we determined that the amount of the intangible asset and the liability originally recorded were overstated. A portion of the liability recorded was related to the license between BioMarin/Genzyme LLC and us and, because this was a liability between a consolidated subsidiary and us, it should have been eliminated in consolidation. To correct the accounting, we have reduced the carrying value of the liability and, in accordance with FIN 46R, recorded a corresponding adjustment to the intangible asset. Accordingly, we recorded adjustments to reduce other intangible assets, net and other noncurrent liabilities by $237.2 million, $234.2 million, and $231.2 million as of March 31, 2008, June 30, 2008, and September 30, 2008, respectively, to correct for the overstatement of the intangible asset and corresponding noncurrent liability. The effect of this revision had no impact on our consolidated statement of operations or consolidated statements of cash flows for any of the revised quarterly periods. Refer to Note R., "Quarterly Results," in these consolidated financial statements for further information on this revision.

NOTE K. ACCRUED EXPENSES

	December 31,	
	2008	2007
	(Amounts in thousands)	
Compensation	$232,363	$204,912
Rebates	132,905	90,437
Bank overdraft	45,022	19,262
License fees	65,188	—
Royalties	56,501	34,064
Other	233,407	296,970
Total	$765,386	$645,645

NOTE L. LONG-TERM DEBT AND LEASES

Long-Term Debt, Capital Lease Obligations and Convertible Debt

Our long-term debt, capital lease obligations and convertible debt consist of the following (amounts in thousands):

	December 31,	
	2008	2007
1.25% convertible senior notes due December 2023	$ —	$ 690,000
Revolving credit facility maturing in July 2011	—	—
Notes payable	6,916	7,952
Mortgage payable	17,957	—
Capital lease obligations	107,034	112,421
Long-term debt, capital lease obligations and convertible debt, including current portion	131,907	810,373
Less current portion	(7,566)	(696,625)
Noncurrent portion	$124,341	$ 113,748

Over the next five years and thereafter, we will be required to repay the following principal amounts of our long-term debt (excluding capital leases) (amounts in millions):

2009	2010	2011	2012	2013	After 2013
$1.5	$1.6	$1.6	$1.7	$1.8	$16.7

1.25% Convertible Senior Notes

In December 2003, we completed the private placement of $690.0 million in principal of 1.25% convertible senior notes due December 1, 2023. After deducting offering costs of $17.0 million, net proceeds from the offering were approximately $673.0 million. We paid interest on these notes on June 1st and December 1st each year.

The notes were convertible into shares of Genzyme Stock at an initial conversion rate, subject to adjustment, of 14.0366 shares per $1,000 principal amount of notes (representing an initial conversion price of approximately $71.24 per share) under certain circumstances.

We had the right to redeem the notes for cash, in whole or in part, at our sole option on and after December 1, 2008. In October 2008, we notified the holders of these notes that we planned to redeem the notes on December 1, 2008 using available cash. Prior to the redemption date, $2.8 million in

principal amount of notes were converted into 39,665 shares of our common stock. The remaining notes were redeemed for $687.2 million cash plus accrued interest of $4.3 million and bank fees which were not significant.

Interest expense related to these notes was $10.9 million in 2008 and $11.9 million in 2007 and 2006. These amounts include the amortization of debt offering costs of $3.0 million in 2008 and $3.2 million in 2007 and 2006. The fair value of these notes was $810.4 million at December 31, 2007.

Revolving Credit Facility

In July 2006, we entered into our revolving credit facility. The proceeds of loans under our 2006 revolving credit facility can be used to finance working capital needs and for general corporate purposes. We may request that our 2006 revolving credit facility be increased at any time by up to an additional $350.0 million in the aggregate, as long as no default or event of default has occurred or is continuing and certain other customary conditions are satisfied. Borrowings under our 2006 revolving credit facility will bear interest at various rates depending on the type of loan. We are required to pay a facility fee of between 7 to 20 basis points based on the aggregate commitments under our 2006 revolving credit facility, and in certain circumstances a utilization fee of 10 basis points as follows:

- revolving loans denominated in U.S. dollars or a foreign currency (other than Euros) bear interest at a variable rate equal to LIBOR for loans in U.S. dollars and a comparable index rate for foreign currency loans, plus an applicable margin;

As of December 31, 2008, no amounts were outstanding under our 2006 revolving credit facility. The terms of our 2006 revolving credit facility include various covenants, including financial covenants that require us to meet minimum interest coverage ratios and maximum leverage ratios. As of December 31, 2008 we were in compliance with these covenants.

Notes Payable

We assumed a $10.0 million note payable in July 2005 in connection with our acquisition of Equal Diagnostics. This note bears interest at 3.86% and is payable to three former shareholders of Equal Diagnostics over eight years in equal annual installments of $1.3 million.

Mortgage Payable

In July 2008, we purchased land and a manufacturing facility we formerly leased in Framingham, Massachusetts, for an aggregate purchase price of $38.9 million, including fees. We paid $20.8 million in cash and assumed the remaining $18.1 million in principal outstanding under the existing mortgage for the facility, which bears interest at 5.57% annually and is due in May 2020. The balance on the mortgage was $18.0 million at December 31, 2008.

Capital Leases

We have non-cancelable capital lease obligations related to certain machinery and equipment, administrative offices and our corporate headquarters.

Our capital lease obligation related to our corporate headquarters in Cambridge, Massachusetts requires us to make monthly payments of $1.3 million, which will be adjusted to $1.6 million in August 2013. We have recorded the value of the building and related obligations of $131.0 million in our consolidated balance sheets at the date of inception. The term of the lease is fifteen years and may be extended at our option for two successive ten-year periods.

Over the next five years and thereafter, we will be required to pay the following amounts under our non-cancelable capital leases (amounts in millions):

2009	$ 15.2
2010	15.5
2011	15.5
2012	15.5
2013	16.9
Thereafter	86.4
Total lease payments	165.0
Less: interest	(58.0)
Total principal payments	107.0
Less current portion	(5.9)
Total	$101.1

Operating Leases

We lease facilities and personal property under non-cancelable operating leases with terms in excess of one year. Our total expense under operating leases was (amounts in millions):

For the Years Ended December 31,		
2008	2007	2006
$75.2	$74.3	$60.9

Over the next five years and thereafter, we will be required to pay the following amounts under non-cancelable operating leases (amounts in millions):

2009	2010	2011	2012	2013	After 2013	Total
$67.6	$53.8	$39.1	$29.1	$16.5	$94.7	$300.8

NOTE M. STOCKHOLDERS' EQUITY

Preferred Stock

	At December 31, 2008			At December 31, 2007		
Series	Authorized	Issued	Outstanding	Authorized	Issued	Outstanding
Series A Junior Participating, $0.01 par value	3,000,000	—	—	3,000,000	—	—
Undesignated	7,000,000	—	—	7,000,000	—	—
	10,000,000	—	—	10,000,000	—	—

Our charter permits us to issue shares of preferred stock at any time in one or more series. Our board of directors will establish the preferences, voting powers, qualifications, and special or relative rights or privileges of any series of preferred stock before it is issued.

Common Stock

The following table describes the number of authorized and outstanding shares of our common stock at December 31, 2008 and 2007:

Series	Authorized	Outstanding at December 31, 2008	Outstanding at December 31, 2007
Genzyme Stock, $0.01 par value	690,000,000	270,704,169	266,008,500

Stock Rights

Under our shareholder rights plan, each outstanding share of Genzyme Stock also represents one preferred stock purchase right. When the stock purchase rights become exercisable, the holders of Genzyme Stock will be entitled to purchase one two-hundredth of a newly issued share of Series A Preferred Stock, $0.01 par value per share, for $150.00.

Each share of Series A Preferred Stock will be entitled to a minimum preferential quarterly dividend payment of $1 per share, but will be entitled to an aggregate dividend of 100 times the cash dividend declared per share of Genzyme Stock. Each share of Series A Preferred Stock will have 100 votes and will vote together with Genzyme Stock. In the event of any merger, consolidation or other transaction in which Genzyme Stock is exchanged, each share of Series A Preferred Stock will be entitled to receive 100 times the amount received per share of Genzyme Stock.

A stock purchase right becomes exercisable either:

- ten days after our board of directors announces that a third party has become the owner of 15% or more of the total voting power of our outstanding common stock combined; or
- ten business days after a third party announces or initiates a tender or exchange offer that would result in that party owning 15% or more of the total voting power of our outstanding common stock combined.

In either case, the board of directors can extend the ten-day delay. These stock purchase rights expire in March 2009.

Directors' Deferred Compensation Plan

Each member of our board of directors who is not also one of our employees may defer receipt of all or a portion of the cash compensation payable to him or her as a director and receive either cash or stock in the future. Under this plan, the director may defer his or her compensation until his or her services as a director cease or until another date specified by the director.

Under a deferral agreement, a participant indicates the percentage of deferred compensation to allocate to cash and stock, upon which a cash deferral account and a stock deferral account are established. The cash account bears interest at the rate paid on 90-day Treasury bills with interest accruing quarterly. The stock account is for amounts invested in hypothetical shares of Genzyme Stock. These amounts are converted into hypothetical shares quarterly at the average closing price of Genzyme Stock for all trading days during the quarter.

Distributions are paid in a lump sum or in annual installments for up to five years. Payments begin the year following a director's termination of service or, subject to certain restrictions, in a year elected by the participant. As of December 31, 2008, five of the seven eligible directors had established accounts under this plan, and four of these directors are currently deferring their compensation. We have reserved 105,962 shares of Genzyme Stock to cover distributions credited to stock accounts under the plan. We had not made any stock distributions under this plan as of December 31, 2008. As of

December 31, 2008, we have made cash distributions totaling $69,492 to one director under the terms of his deferral agreement.

Stock Repurchase Program

In May 2007, our board of directors authorized a stock repurchase program to repurchase up to an aggregate maximum amount of $1.5 billion or 20,000,000 shares of our outstanding common stock over a three year period beginning with the commencement of the program. The program commenced in June 2007. The repurchases are being made from time to time and can be effectuated through open market purchases, privately negotiated transactions, transactions structured through investment banking institutions, or by other means, subject to management's discretion and as permitted by securities laws and other legal requirements. The manner of the purchase, the amount that we spend and the number of shares we ultimately purchase will vary based on a range of factors, including share price. The program does not obligate us to acquire any particular amount of common stock and the program may be suspended at any time at our discretion.

Since June 2007, when we first began repurchasing shares of our common stock under this program, we have repurchased a cumulative total of 5,500,000 shares of our common stock at an average price of $68.09 per share for a total of $374.6 million in cash, including fees. We recorded the repurchases in our consolidated balance sheets as a reduction to our common stock account for the par value of the repurchased shares and as a reduction to our additional paid-in capital account.

Stock-Based Compensation

Equity Plans

The purpose of each of our equity plans is to attract, retain and motivate our key employees, consultants and directors. Awards granted under these plans can be either incentive stock options, (ISO), nonstatutory stock options (NSO) or RSUs, as specified in the individual plans. Shares issued as a result of stock option exercises are funded through the issuance of new shares. The following table contains information about our equity plans:

			As of December 31, 2008		
Plan Name	**Group Eligible**	**Type of Award Granted**	**Awards Reserved for Issuance**	**Awards Outstanding**	**Awards Available for Grant**
2004 Equity Incentive Plan(1)	All key employees and consultants	ISO/NSO/RSU	33,150,266	26,559,318	6,590,948
2001 Equity Incentive Plan(1)	All key employees and consultants	ISO/NSO	7,549,240	7,531,521	17,719
2007 Director Equity Plan(2)	Non-employee board members	NSO/RSU	821,391	632,270	189,121
Assumed Options(3)			112,968	112,968	—
			41,633,865	34,836,077	6,797,788

(1) The exercise price of option grants may not be less than the fair market value at the date of grant. Option grants have a maximum term of ten years and RSUs generally have cliff vesting in three years. The compensation committee of our board of directors, or its delegates as applicable, determines the terms and conditions of each award, including who among eligible persons will receive awards, the form of payment of the exercise price of stock options, the number of shares granted, the vesting schedule and the terms of exercise or release.

(2) Options and RSUs are automatically granted on the date of our annual shareholders meeting or at a director's initial appointment to the board. Options have an exercise price equal to the fair market value of Genzyme Stock on the date of grant and expire ten years after the initial grant date. Options and RSUs vest on the date of the next annual shareholders meeting following the date of grant. In 2008, we began granting RSUs to our directors following shareholder approval of the automatic grant provisions for RSUs under the director equity plan.

(3) Consists of options we assumed through our acquisitions.

In 2008, 2007 and 2006, we accounted for options granted to our employees and directors using the Black-Scholes valuation model to measure stock option expense at the date of grant. All stock option grants have an exercise price equal to the fair market value of Genzyme Stock on the date of grant and generally have a 10-year term and vest in increments, generally over four years from the date of grant, although we may grant options with different vesting terms from time to time. Upon termination of employment other than by death, disability or change of control, unvested options are cancelled, and any unexercised vested options will expire three months after the employee's termination date. Excluding our directors who are not employees, when an employee meets a retirement eligibility age of 60 with at least five years of service, upon termination (except for cause) the employee's options automatically become fully vested and will expire three years after the employee's termination date or on the original expiration date set at the time the options were granted, whichever is earlier. When a director leaves the board, unvested options are cancelled and any unexercised vested options will expire at the end of their term. We recognize stock-based compensation expense for each grant on a straight-line basis over the employee's or director's requisite service period, generally the vesting period of the award. Additionally, stock-based compensation expense related to stock options includes an estimate for pre-vesting forfeitures. We recognize stock-based compensation expense immediately for awards granted to retirement eligible employees or over the period from the grant date to the date retirement eligibility is achieved, if that is expected to occur during the nominal vesting period. For stock-based compensation expense recognition purposes only, grants to retirement eligible employees prior to January 1, 2006 are not subject to accelerated vesting and expense is recognized over the nominal vesting period.

We award time-vested RSUs to employees that generally vest no sooner than one-third per year over three years on the anniversary of the date of grant if the employee has reached the retirement eligibility threshold, or upon the third anniversary of the date of grant, provided the employee remains continuously employed with us. Shares of Genzyme Stock will be delivered to the employee upon vesting, subject to payment of applicable withholding taxes. Time-vested RSUs awarded to our directors for service on our board of directors vest on the date of the next annual meeting of shareholders following the date of grant, provided that the director continues to serve on our board of directors through the vesting date. Shares of Genzyme Stock will be delivered to the director upon vesting. The fair value of all time-vested RSUs is based on the market value of Genzyme Stock on the date of grant. We recognize compensation expense for our RSUs, including the effect of forfeitures, over the applicable service period.

ESPP

Our 1999 ESPP allows employees to purchase our stock at a discount. Under this plan, the purchase price per share of Genzyme Stock is 85% of the lower of the fair market value of Genzyme Stock at the beginning of an enrollment period or on the purchase date. Employees working at least 20 hours per week may elect to participate in our ESPP during specified open enrollment periods, which occur twice each year shortly before the start of each new enrollment period. New enrollment periods begin on the first trading day of January and July and each enrollment period lasts two years. Employee contributions for each enrollment period are automatically used to purchase stock on behalf of each participating employee on eight pre-determined purchase dates during the two-year enrollment period, which occur once every three months, in January, April, July and October. We place limitations on the total number of shares of stock that employees can purchase under the plan in a given year.

Stock-Based Compensation Expense, Net of Estimated Forfeitures

As a result of the adoption of FAS 123R, we recorded pre-tax stock-based compensation expense, net of estimated forfeitures, which were allocated based on the functional cost center of each employee as follows (amounts in thousands, except per share amounts):

	For the Years Ended December 31,		
	2008	2007	2006
Pre-tax stock-based compensation expense, net of estimated forfeitures(1):			
Cost of products and services sold	$ (27,555)	$ (25,677)	$ (21,430)
Selling, general and administrative	(102,745)	(106,172)	(121,822)
Research and development	(56,673)	(58,101)	(65,248)
Total	(186,973)	(189,950)	(208,500)
Less: tax benefit of stock options	56,740	58,148	66,331
Stock-based compensation expense, net of tax	$(130,233)	$(131,802)	$(142,169)
Per basic and diluted share	$ (0.49)	$ (0.50)	$ (0.54)

(1) We capitalized $13.9 million in 2008, $13.5 million in 2007 and $15.1 million in 2006, of stock-based compensation expense to inventory, all of which is attributable to participating employees that support our manufacturing operations. We amortize stock-based compensation expense capitalized to inventory based on inventory turns.

At December 31, 2008, there was approximately $250 million of pre-tax stock-based compensation expense, net of estimated forfeitures, related to unvested awards not yet recognized which is expected to be recognized over a weighted average period of 2 years.

Valuation Assumptions for Stock Option Plans and ESPP

The employee stock-based compensation expense recognized under FAS 123R was determined using the Black-Scholes option valuation model. Option valuation models require the input of subjective assumptions and these assumptions can vary over time. The weighted average assumptions used are as follows:

	For the Years Ended December 31,		
	2008	2007	2006
Risk-free interest rate	2%	4%	5%
Dividend yield	0%	0%	0%
Expected option life (in years)—directors	7	7	7
Expected option life (in years)—officers	6	6	6
Expected option life (in years)—other senior managers	5	4	4
Expected option life (in years)—all other employees	4	4	4
Volatility-stock options	27%	28%	39%
Volatility-ESPP	27%	23%	27%

The risk-free interest rate is based on the U.S. Treasury yield curve in effect on the date of grant. The dividend yield percentage is zero because we do not currently pay dividends nor intend to do so during the expected option life. We used historical data from exercises of our stock options and other factors to estimate the expected option life (in years), or term, of the share-based payments granted. We determined the volatility rate for our stock options based on the expected term of the equity award

granted. We determine separate volatility rates for each enrollment under our ESPP based on the period from the commencement date of each enrollment to each applicable purchase date. Stock option expense in future periods will be based upon the Black-Scholes values determined at the date of each grant or the date of each purchase under our ESPP.

Stock Option Plan Activity

The following table contains information regarding our stock option activity for the year ended December 31, 2008:

	Shares Under Option	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Outstanding at December 31, 2007	34,770,972	$52.94		
Granted	3,280,482	69.14		
Exercised	(5,716,398)	46.74		
Forfeited and cancelled	(484,904)	75.30		
Outstanding at December 31, 2008	31,850,152	$55.39	5.95	$389,220,467
Vested and expected to vest at December 31, 2008	31,662,014	$55.33	5.93	$388,675,461
Exercisable at December 31, 2008	22,850,538	$52.14	5.10	$355,896,477

The following table contains information regarding the pre-tax intrinsic value of our stock options, the estimated fair value of shares vested and the weighted average grant date fair value per share of stock granted under our stock option plans for the periods presented (amounts in thousands, except per share amounts):

	For the Years Ended December 31,		
	2008	2007	2006
Pre-tax intrinsic value of options exercised	$176,048	$153,772	$81,928
Weighted average grant date fair value per share of stock granted under our stock option plans	$ 19.24	$ 19.39	$ 25.01

Time-Vested RSU Activity

We granted RSUs for the first time in connection with our 2007 general grant to employees and our 2008 annual grant to non-employee directors. The following table contains information regarding our time-vested RSUs for the year ended December 31, 2008:

	Shares Under Award	Weighted Average Grant Date Fair Value	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Outstanding at December 31, 2007	1,311,857	$62.16	2.39	
Granted	1,788,795	68.51		
Vested and issued	(10,476)	62.16		
Forfeited and cancelled	(104,251)	64.94		
Outstanding at December 31, 2008	2,985,925	$65.87	1.89	
Vested and expected to vest at December 31, 2008	2,876,668		1.88	$190,924,461
Cumulative shares issued at December 31, 2008	10,476			

ESPP Activity

The following table contains information regarding our ESPP activity for the years ended December 31, 2007 and 2008:

Shares available and issued:	
Available for purchase as of December 31, 2006	813,725
Additional shares authorized	1,500,000
Shares purchased by employees	(867,934)
Available for purchase as of December 31, 2007	1,445,791
Additional shares authorized	—
Shares purchased by employees	(936,105)
Available for purchase as of December 31, 2008	509,686

Notes Receivable from Stockholders

In connection with our acquisition of Biomatrix, we assumed notes receivable from five former employees, directors and consultants of Biomatrix, who we refer to as the Makers of the notes. The notes are full-recourse promissory notes that accrue interest at rates ranging from 5.30% to 7.18% and mature at various dates from May 2007 through September 2009. We record the amount of principal and interest outstanding under the notes in stockholders' equity because the notes were originally received in exchange for the issuance of Biomatrix common stock, which was subsequently converted into Genzyme Stock.

In 2008, we received a total of $12.6 million of cash, including $0.3 million for the reimbursement of collection costs, and shares of Genzyme Stock valued at $2.0 million as payment in full for all but two of the outstanding notes, both of which mature in 2009. In January 2009 we received a total of $1.2 million as payment for one of the outstanding notes. The amount of principal and accrued interest due under the remaining note is not material.

NOTE N. COMMITMENTS AND CONTINGENCIES

Legal Proceedings

In April 2005, Church & Dwight Co., Inc., or Church & Dwight, filed a suit in U.S. District Court for the District of New Jersey against Abbott Laboratories, or Abbott, claiming that certain over-the-counter pregnancy tests distributed by Abbott between 1999 and 2003 infringed upon patents owned by Church & Dwight. During part of this period, a portion of the test kits distributed by Abbott were manufactured by Wyntek Diagnostics, Inc., or Wyntek, which had agreed to indemnify Abbott for patent infringement related costs and damages for these products. In 2002, we acquired Wyntek and assumed the obligations under this agreement. In June 2008, the court issued a ruling awarding Church & Dwight approximately $29 million in damages based on a jury finding of willful infringement by Abbott. This award has not yet been entered as a final ruling. Abbott will have 60 days from the final entry of this award to file an appeal. Because multiple parties, including Abbott, manufactured infringing product for Abbott during this period, any responsibility that we may have for indemnifying Abbott is only for a portion of its costs and damages related to this case. We currently are disputing with Abbott the percentage of infringing product that was supplied by us and may in the future assert additional claims that, if successful, would reduce or relieve us of any liability.

Through June 30, 2003, we had three outstanding series of common stock, which we referred to as tracking stocks; Genzyme General Stock (which we now refer to as Genzyme Stock), Biosurgery Stock and Molecular Oncology Stock. On August 6, 2007, we reached an agreement in principle to settle for $64.0 million lawsuits related to our 2003 exchange of Genzyme Stock for Biosurgery Stock. We recorded a liability for the settlement payment of $64.0 million as a charge to SG&A in our consolidated statement of operations for the quarterly period ended June 30, 2007. We paid the settlement in August 2007. The court approved the settlement in October 2007. We have submitted claims to our insurers for reimbursement of portions of the expenses incurred in connection with these cases; the insurer has purported to deny coverage, and, therefore, we have not recorded a receivable for any potential recovery from our insurer. We intend to vigorously pursue our rights with respect to insurance coverage and to the extent we are successful, we will record the recovery in our consolidated statements of operations.

We periodically become subject to legal proceedings and claims arising in connection with our business. Although we cannot predict the outcome of these additional proceedings and claims, we do not believe the ultimate resolution of any of these existing matters would have a material adverse effect on our consolidated financial position or results of operations.

NOTE O. INCOME TAXES

Our income (loss) before income taxes and the related income tax provision (benefit) are as follows (amounts in thousands):

	For the Years Ended December 31,		
	2008	2007	2006
Income (loss) before income taxes:			
Domestic	$ 655,550	$ 753,987	$ 4,158
Foreign	(30,012)	(18,313)	(56,836)
Total	$ 625,538	$ 735,674	$ (52,678)
Currently payable:			
Federal	$ 347,100	$ 313,136	$ 119,037
State	26,212	19,498	27,194
Foreign	26,345	28,986	97,684
Total	399,657	361,620	243,915
Deferred:			
Federal	(153,183)	(75,931)	(219,383)
State	(13,588)	(10,311)	(29,048)
Foreign	(28,429)	(19,897)	(31,365)
Total	(195,200)	(106,139)	(279,796)
Provision for (benefit from) income taxes	$ 204,457	$ 255,481	$ (35,881)

Our provisions for income taxes were at rates other than the U.S. federal statutory tax rate for the following reasons:

	For the Years Ended December 31,		
	2008	2007	2006
Tax provision at U.S. statutory rate	35.0%	35.0%	(35.0)%
State taxes, net	1.5	0.7	(1.7)
Export sales benefits	—	—	(37.2)
Domestic manufacturing deduction	(2.1)	(0.5)	(15.5)
Goodwill impairment	—	—	19.6
Legal settlements	—	3.0	—
Audit settlements	(1.3)	0.5	(62.9)
Stock compensation	1.5	1.3	15.8
Tax credits	(3.9)	(3.5)	(30.5)
Foreign rate differential	1.4	(2.1)	76.0
Other	0.6	0.3	3.3
Effective tax rate	32.7%	34.7%	(68.1)%

Our effective tax rate for 2008 was impacted by:

- non-deductible stock compensation expenses of $34.0 million in 2008; and
- $5.1 million of tax benefits recorded to our income tax provision reflecting the resolution of various issues related to the settlement of IRS audits for the tax years 2004 to 2005. In conjunction with those settlements, we reduced our tax reserves by $4.9 million and recorded current and deferred tax benefits for the remaining portion of the settlement amounts.

Our effective tax rates for 2007 and 2006 were impacted by:

- the charge for IPR&D of $106.4 million recorded in October 2007 in connection with our acquisition of Bioenvision, of which $100.3 million was deductible and taxed at rates other than the U.S. statutory income tax rate and $6.1 million was non-deductible;
- non-deductible stock compensation expenses of $32.0 million in 2007 and $33.2 million in 2006;
- a non-deductible charge of $64.0 million for the settlement of the Biosurgery tracking stock suit in August 2007.
- the deductible charge for IPR&D of $552.9 million recorded in November 2006 in connection with our acquisition of AnorMED, of which $195.7 million was taxed at rates other than the U.S. statutory tax rate;
- a charge for impaired goodwill of $219.2 million recorded in September 2006, of which $29.5 million was not deductible for tax purposes; and
- the settlement of the 1996 to 1999 IRS audit and various state and foreign income tax audits. We recorded a $33.2 million tax benefit to our income tax provision primarily related to export sales benefits, tax credits and deductible intangibles from a prior period acquisition. In conjunction with those settlements, we reduced our tax reserves by approximately $13.1 million and recorded current and deferred tax benefits for the remaining portion of the settlement amounts.

In addition, our overall tax rate has changed significantly due to fluctuations in our income (loss) before taxes, which was $625.5 million in 2008, $735.7 million in 2007, and $(52.7) million in 2006.

Effective January 1, 2007, we adopted the provisions of FIN 48. Under FIN 48, we recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained upon examination by the taxing authorities, based on the technical merits of the tax position. The tax benefits recognized in our consolidated financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate resolution.

As of December 31, 2008, we had approximately $52.1 million of total gross unrecognized tax benefits, of which approximately $50.7 million represents the amount of unrecognized tax benefits that, if recognized, would favorably affect our effective income tax rate in future periods. Management has concluded that it is not reasonably possible that the total amounts of unrecognized tax benefits will significantly increase or decrease within 12 months of the reporting date. A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows (amounts in thousands):

Balance as of December 31, 2006	$36,515
Additions to tax provisions related to the current year	9,634
Additions to tax provisions related to the prior years	829
Reduction for tax provisions of prior years	(5,155)
Balance as of December 31, 2007	41,823
Additions to tax provisions related to the current year	8,445
Additions to tax provisions related to prior years	10,029
Reduction for tax provisions of prior years	(8,232)
Balance as of December 31, 2008	$52,065

We continue to recognize interest and penalties related to unrecognized tax benefits, which are not significant, within our provision for income taxes.

The components of net deferred tax assets (liabilities) are described in the following table (amounts in thousands):

	December 31,	
	2008	2007
Deferred tax assets:		
Net operating loss carryforwards	$ 49,587	$ 29,716
Tax credits	18,831	15,071
Inventory	75,314	66,868
Depreciable assets	3,331	2,834
Stock compensation	133,847	103,709
Intangible amortization	75,051	—
Reserves, accruals and other	103,887	111,083
Total deferred tax assets	459,848	329,281
Deferred tax liabilities:		
Realized and unrealized capital gains	(2,506)	(6,292)
Intangible assets	—	(62,984)
Net deferred tax assets	$457,342	$260,005

Our ability to realize the benefit of the net deferred tax assets is dependent on our generating sufficient taxable income. While it is not assured, we believe that it is more likely than not that we will be able to realize all of our net deferred tax assets. The amount we can realize, however, could be reduced in the near term if estimates of future taxable income during the carryforward period are reduced.

At December 31, 2008, we had for U.S. income tax purposes, no significant net operating loss carryforwards and tax credit carryforwards of $18.7 million, primarily for state income tax purposes. The tax credits begin expiring after 2019. We had foreign net operating loss carryforwards of $169.6 million as of December 31, 2008, which begin expiring after 2013, and unlimited tax credit carryforwards of $6.7 million as of December 31, 2008.

We are currently under IRS audit for tax years 2006 to 2007. We believe that we have provided sufficiently for all audit exposures. Settlement of these audits or the expiration of the statute of limitations on the assessment of income taxes for any tax year may result in a reduction of future tax provisions. Any such benefit would be recorded upon final resolution of the audit or expiration of the applicable statute of limitations.

NOTE P. BENEFIT PLANS

Defined Contribution Plans

We have two defined contribution plans:

- the Genzyme Corporation 401(k) Plan, which we refer to as the 401(k) Plan; and
- the Biomatrix, Inc. Retirement Plan, which we refer to as the Biomatrix Plan.

Prior to November 1, 2007, we were the sponsor of the Genzyme Surgical Products Corporation Savings and Investment Plan, which we refer to the GSP Plan. Effective November 1, 2007, the GSP Plan was merged into the 401(k) Plan and the net assets of the GSP Plan were transferred to the 401(k) Plan.

The 401(k) Plan was established effective January 1, 1988 to provide a long-range program of systematic savings for eligible employees. Employees of Genzyme Corporation as well as our wholly-

owned subsidiaries in the United States are eligible to participate in the 401(k) Plan. For 2008, eligible employees could elect, through salary reduction agreements, to have up to 60% or a maximum of $15,500 of their eligible compensation contributed on a pre-tax basis to the 401(k) Plan. We made bi-weekly matching contributions to the 401(k) Plan equal to:

- 100% of the elective contributions made to the 401(k) Plan by each participant to the extent that such elective contributions do not exceed 4% of the participant's eligible compensation for such pay period; and
- 50% of the amount of elective contributions made to the 401(k) Plan by the participant to the extent such elective contributions exceed 4% but do not exceed 6% of the participant's eligible compensation for such pay period.

SG&A includes the following charges related to the 401(k) Plan, representing our matching contributions incurred in each year:

- $33.6 million in 2008;
- $25.0 million in 2007; and
- $23.9 million in 2006.

Effective December 31, 2000, the Biomatrix Plan was frozen and the participants in this plan became eligible to participate in the 401(k) Plan.

Defined Benefit Plans

We have defined benefit pension plans for certain employees in countries outside the U.S. and a defined benefit post-retirement plan for one of our U.S. subsidiaries, which has been frozen since 1995 and is not significant. These plans are funded in accordance with requirements of the appropriate regulatory bodies governing each plan.

The following table sets forth the funded status and the amounts recognized for our defined benefit pension plans outside the U.S. (amounts in thousands):

	December 31, 2008	December 31, 2007
Change in benefit obligation:		
Projected benefit obligation, beginning of year	$ 97,608	$ 95,385
Service cost	6,313	6,436
Interest cost	5,468	5,064
Plan participants' contributions	2,073	1,798
Actuarial gain	(21,372)	(11,713)
Foreign currency exchange rate changes	(23,150)	2,395
Benefits paid	(1,618)	(1,757)
Projected benefit obligation, end of year	$ 65,322	$ 97,608
Change in plan assets:		
Fair value of plan assets, beginning of year	$ 72,387	$ 63,603
Return on plan assets	(16,155)	3,421
Employer contribution	4,486	3,920
Plan participants' contributions	2,073	1,798
Foreign currency exchange rate changes	(17,640)	1,082
Benefits paid	(1,396)	(1,437)
Fair value of plan assets, end of year	$ 43,755	$ 72,387
Funded status at end of year	$(21,567)	$(25,221)

Amounts recognized in our consolidated balance sheets consist of (amounts in thousands):

	December 31, 2008	December 31, 2007
Accrued expenses	$ (1,234)	$ (1,343)
Other noncurrent liabilities	(20,333)	(23,878)
Net amount recognized	$(21,567)	$(25,221)

The amounts recognized in accumulated other comprehensive income (loss) for net actuarial gains and losses and prior service costs were not significant for the years ended December 31, 2008, 2007 or 2006. The estimated amounts that will be amortized from accumulated other comprehensive income (loss) at December 31, 2008 into net pre-tax periodic pension costs in 2009 is also not significant.

The weighted average assumptions used in determining related obligations of pension benefit plans are shown below:

	December 31, 2008	December 31, 2007
Weighted average assumptions:		
Discount rate	6.42%	5.79%
Rate of compensation increase	4.12%	4.81%

For the year ended December 31, 2008, the discount rate used to determine the benefit obligations for our plans was based on highly rated long-term bond indices and yield curves that match the duration of each plan's benefit obligations. The bond indices and yield curve analyses include only bonds rated Aa or higher from reputable rating agencies. The discount rate represents the average of

the discount rates for each plan weighted by plan liabilities as of December 31, 2008. The discount rate reflects the rate at which the pension benefits could be effectively settled.

The weighted average assumptions used to determine the net pension expense are shown below:

	December 31,		
	2008	2007	2006
Weighted average assumptions:			
Discount rate	5.78%	5.12%	4.73%
Rate of return on assets	7.61%	7.67%	7.47%
Rate of compensation increase	4.81%	4.44%	3.93%

The components of net pension expense are as follows (amounts in thousands):

	December 31,		
	2008	2007	2006
Service cost	$ 6,313	$ 6,436	$ 4,751
Interest cost	5,468	5,063	3,488
Expected return on plan assets	(5,607)	(3,411)	(6,269)
Amortization and deferral of actuarial gain (loss)	827	(456)	3,334
Net pension expense	$ 7,001	$ 7,632	$ 5,304

The projected benefit obligation, accumulated benefit obligation, and fair value of plan assets for pension plans with accumulated benefit obligations in excess of plan assets are as follows (amounts in thousands):

	December 31,	
	2008	2007
Projected benefit obligation	$65,322	$97,608
Accumulated benefit obligation	48,618	86,635
Fair value of plan assets	43,755	72,387

At December 31, 2008 and 2007, plan assets for our foreign defined pension benefit plans consist primarily of the assets of our U.K. Pension Plan. Defined pension benefit plan assets for our other foreign subsidiaries as of December 31, 2008 and 2007 were not significant.

The investment objective of our U.K. Pension Plan is to maximize the overall return from investment income and capital appreciation without resorting to a high risk investment strategy. The plan has no employer-related investments. Our U.K. Pension Plan retains professional investment managers that invest plan assets primarily in equity securities, bonds, property, and cash and other investments, which is consistent with the plan's liability profile. The weighted average asset allocations for our U.K. Pension Plan are as follows:

	December 31,	
	2008	2007
U.K. equity securities	56%	57%
Other overseas equity securities	25%	26%
Bonds	11%	9%
Real estate	4%	4%
Other	4%	4%
Total	100%	100%

The assumption made for the expected return on assets is based on the benchmark allocation strategy for our U.K. Pension Plan. Returns for individual asset categories are derived from market yields at the effective date, together with, in the case of equity-type assets, allowance for the additional future return expected from such assets compared to fixed interest investments.

Contributions

We expect to contribute approximately $4 million to our U.K. Pension Plan in 2009.

Estimated Future Benefit Payments

We expect to pay the following benefit payments for our defined pension benefit plans outside the United States, which reflect expected future service, as appropriate (amounts in thousands):

	Estimated Future Benefit Payments
2009	$ 1,247
2010	1,179
2011	1,275
2012	1,528
2013	1,728
2014 - 2018	13,622
Total	$20,579

NOTE Q. SEGMENT INFORMATION

In accordance with FAS 131, "Disclosures about Segments of an Enterprise and Related Information," we present segment information in a manner consistent with the method we use to report this information to our management. Applying FAS 131, in the fourth quarter of 2008, we changed our segment reporting structure to better reflect the way we manage and measure the performance of our businesses. Under the new reporting structure, we are organized into four reporting segments as described in Note A., under the heading "Summary of Significant Accounting Policies—Description of Business," to these financial statements. We have revised our 2007 and 2006 segment presentations to conform to our 2008 presentation.

We have provided information concerning the operations of these reportable segments in the following tables (amounts in thousands):

	For the Years Ended December 31,		
	2008	2007	2006
Revenues:			
Genetic Diseases(1)	$2,226,692	$1,767,538	$1,426,958
Cardiometabolic and Renal	956,183	833,268	704,308
Biosurgery	491,100	426,647	387,569
Hematologic Oncology(2)	117,338	76,933	57,276
Other	812,465	707,518	610,529
Corporate	1,261	1,615	373
Total	$4,605,039	$3,813,519	$3,187,013
Depreciation and amortization expense:			
Genetic Diseases	$ 46,683	$ 40,379	$ 18,191
Cardiometabolic and Renal	83,309	83,454	95,598
Biosurgery	76,327	71,512	73,788
Hematologic Oncology(2)	42,708	23,728	19,851
Other	59,347	60,803	62,097
Corporate	66,290	58,320	61,864
Total	$ 374,664	$ 338,196	$ 331,389
Equity in income (loss) of equity method investments:			
Genetic Diseases	$ 300	$ 30,110	$ 18,534
Cardiometabolic and Renal	(115)	(852)	(1,814)
Biosurgery	—	—	—
Hematologic Oncology	—	(21,101)	—
Other	—	(45)	(26)
Corporate	16	(714)	(989)
Total	$ 201	$ 7,398	$ 15,705
Income (loss) before income taxes:			
Genetic Diseases(3,4)	$1,339,073	$1,177,477	$ 996,095
Cardiometabolic and Renal(5)	138,923	280,345	181,969
Biosurgery	99,553	60,082	40,734
Hematologic Oncology(2)	(95,028)	(202,533)	(53,270)
Other(6,7)	(135,477)	8,977	(744,666)
Corporate(8)	(721,507)	(588,674)	(473,540)
Total	$ 625,537	$ 735,674	$ (52,678)

(1) Effective January 1, 2008, instead of sharing all costs and profits of Aldurazyme equally, we began to record all sales of Aldurazyme and began paying BioMarin a tiered payment ranging from approximately 39.5% to 50% of worldwide net product sales of Aldurazyme. Revenue for our Genetic Diseases reporting segment includes Aldurazyme revenue of $151.7 million for 2008.

(2) The results of operations of acquired companies and assets and the amortization expense related to acquired intangible assets are included in segment results beginning on the date of acquisition.

Charges for IPR&D related to these acquisitions are included in segment results in the year of acquisition. Significant acquisitions impacting the segment results above are:

Acquisition	Date Acquired	Business Segment(s)	IPR&D Charge
Bioenvision	October 23, 2007	Hematologic Oncology	$125.5 million
AnorMED	November 7, 2006	Hematologic Oncology	$552.9 million

(3) Includes a charge of $100.0 million recorded in July 2008 as a nonrefundable upfront license fee payment to PTC related to our collaboration agreement to develop and commercialize ataluren.

(4) Includes a charge of $25.0 million recorded in June 2007 for an upfront payment made to Ceregene, Inc. in connection with a collaboration agreement for the development and commercialization of CERE-120, a gene therapy product for the treatment of Parkinson's disease.

(5) Includes charges of $175.0 million recorded in June 2008 and $69.9 million recorded in February 2008 as license fees payments to Isis for exclusive, worldwide rights to mipomersen.

(6) Includes charges of $130.0 million for amounts accrued or paid to Osiris for nonrefundable upfront license fees related to our collaboration to develop and commercialize Prochymal and Chondrogen.

(7) Loss before income taxes for Other for 2006 includes a $219.2 million charge for impaired goodwill recorded in September 2006.

(8) Loss before income taxes for Corporate includes our corporate, general and administrative and corporate science activities, all of the stock-based compensation expenses, as well as net gains on investments in equity securities, interest income, interest expense and other income and expense items that we do not specifically allocate to a particular reporting segment. Loss before income taxes for Corporate includes a charge of $64.0 million in 2007 for the settlement of the litigation related to the consolidation of our former tracking stocks.

Segment Assets

We provide information concerning the assets of our reportable segments in the following table (amounts in thousands):

	December 31,		
	2008	2007	2006
Segment Assets(1):			
Genetic Diseases(2)	$1,520,586	$1,147,256	$1,020,345
Cardiometabolic and Renal	1,366,970	1,523,296	1,434,094
Biosurgery	497,813	458,239	477,334
Hematologic Oncology(3,4)	700,563	738,939	525,829
Other(5,6)	1,097,169	1,041,134	889,873
Corporate(7)	3,488,175	3,405,511	2,843,713
Total	$8,671,276	$8,314,375	$7,191,188

(1) Assets for our four reporting segments and Other include primarily accounts receivable, inventory and certain fixed and intangible assets, including goodwill.

(2) Effective January 1, 2008, in connection with the restructuring of BioMarin/Genzyme LLC, we licensed certain rights to commercialize Aldurazyme from the joint venture, and, in accordance with the provisions of FIN 46R, began consolidating the results of the joint venture at fair value. As of December 31, 2008, other intangible assets, net includes $240.2 million for the fair value of the joint venture's manufacturing and commercialization rights to Aldurazyme, offset by

$(12.0) million of related amortization. Other noncurrent liabilities as of December 31, 2008, includes $228.2 million of additional net liabilities related to the fair value of these rights.

(3) In October 2007, we acquired Bioenvision for net consideration of $304.7 million. Total assets for the acquisition as of October 23, 2007, the date of acquisition, include (amounts in millions):

	Amount	Business Segment
Cash and cash equivalents	$ 45.2	Corporate
Goodwill and other intangible assets	257.7	Hematologic Oncology
Other tangible assets	13.0	Hematologic Oncology
Total	$315.9	

(4) In November 2006, we acquired AnorMED for net consideration of $569.0 million. Total assets for AnorMED as of November 7, 2006, the date of acquisition, include (amounts in millions):

	Amount	Business Segment
Cash and cash equivalents	$20.2	Corporate
Other tangible assets	35.6	Hematologic Oncology
Goodwill and other intangible assets	35.8	Hematologic Oncology
Total	$91.6	

(5) In September 2006, upon completion of the required annual impairment tests for our goodwill, we determined that the $219.2 million of goodwill for our genetics business was fully impaired and, as a result, we recorded a charge of $219.2 million in our consolidated statement of operations in September 2007 to write off the goodwill for our genetics business.

(6) In December 2007, we acquired certain diagnostic assets from DCL for net consideration of $54.1 million. Total assets for the acquisition as of December 3, 2007, the date of acquisition, include (amounts in millions):

	Amount	Business Segment
Goodwill and other intangible assets	$44.9	Other
Other tangible assets	10.0	Other
Total	$54.9	

(7) Includes the assets related to our corporate, general and administrative operations, and corporate science activities that we do not allocate to a particular segment, including cash, cash equivalents, short- and long-term investments in debt securities, net property, plant and equipment and deferred tax assets.

Segment assets for Corporate consist of the following (amounts in thousands):

	December 31,		
	2008	2007	2006
Cash, cash equivalents, short- and long-term investments in debt securities	$ 973,691	$1,460,394	$1,285,604
Deferred tax assets, net	457,342	260,005	136,925
Property, plant & equipment, net	1,524,442	1,240,992	1,036,182
Investments in equity securities	83,325	89,181	66,563
Other	449,375	354,939	318,439
Total	$3,488,175	$3,405,511	$2,843,713

Geographic Information

We operate in the healthcare industry and we manufacture and market our products primarily in the United States and Europe. Our principal manufacturing facilities are located in the United States, United Kingdom, Republic of Ireland, France and Belgium. The following tables contain certain financial information by geographic area (amounts in thousands):

	For the Years Ended December 31,		
	2008	2007	2006
Revenues:			
United States	$2,259,086	$1,996,764	$1,728,497
Europe	1,587,318	1,238,360	990,745
Other	758,635	578,395	467,771
Total	$4,605,039	$3,813,519	$3,187,013

	December 31,		
	2008	2007	2006
Long-lived assets:			
United States	$1,374,708	$1,067,918	$ 928,547
Europe	1,099,916	1,044,901	801,767
Other	11,429	11,644	7,014
Total	$2,486,053	$2,124,463	$1,737,328

Our results of operations are dependent on sales of Cerezyme. Sales of this product represented 27% of our total revenue in 2008, 30% of our total revenue in 2007 and 32% of our total revenue in 2006. We manufacture Cerezyme at our facility in Allston, Massachusetts and perform certain fill-finish activities at our facility in Waterford, Ireland. We sell this product directly to physicians, hospitals and treatment centers as well as through unaffiliated distributors. Distributor sales of Cerezyme represented 15% of Cerezyme revenue in 2008, 17% in 2007 and 21% in 2006. We believe that our credit risk associated with trade receivables is mitigated as a result of the fact that this product is sold to a large number of customers over a broad geographic area.

Sales of Renagel/Renvela, including sales of bulk sevelamer, represented 14% of our total revenue in 2008 and 16% of our total revenue in both 2007 and 2006. A substantial portion of the sales of Renagel/Renvela are to wholesale distributors.

NOTE R. QUARTERLY RESULTS (Unaudited)

	1st Quarter 2008	2nd Quarter 2008	3rd Quarter 2008	4th Quarter 2008
	(Amounts in thousands, except per share amounts)			
Total revenues	$1,100,061	$1,171,134	$1,160,284	$1,173,560
Gross profit(1)	819,819	862,093	865,674	866,850
Net income(1)	145,271	69,564	119,596	86,650
Net income per share:				
Basic	$ 0.54	$ 0.26	$ 0.44	$ 0.32
Diluted	$ 0.52	$ 0.25	$ 0.42	$ 0.31

	1st Quarter 2007	2nd Quarter 2007	3rd Quarter 2007	4th Quarter 2007
	(Amounts in thousands, except per share amounts)			
Total revenues	$883,183	$933,419	$960,159	$1,036,758
Gross profit(2)	671,608	710,359	706,247	768,560
Net income(2,3)	158,187	83,794	159,313	78,899
Net income per share:				
Basic	$ 0.60	$ 0.32	$ 0.61	$ 0.30
Diluted	$ 0.57	$ 0.31	$ 0.58	$ 0.29

(1) Includes:

- for the first quarter of 2008, a $69.9 million pre-tax charge ($56.5 million after tax) for a license fee we paid to Isis;
- for the second quarter of 2008, a $175.0 million pre-tax charge ($141.3 million after tax) for an additional license fee paid to Isis and a $9.0 million pre-tax net gain ($5.7 million after tax) for a net gain on investments in equity securities;
- for the third quarter of 2008, a $100.0 million pre-tax charge ($91.3 million after tax) for a license fee we paid to PTC and $14.3 million of pre-tax charges ($10.6 million after tax) for net losses on investments in equity securities; and
- for the fourth quarter of 2008:
  - a $130.0 million pre-tax charge ($82.5 million after tax) for amounts accrued and paid to Osiris for a license fee;
  - a $16.0 million pre-tax charge ($11.1 million after tax) for the license or purchase of certain intellectual property and technology relating to transactions with two third parties; and
  - a $18.1 million pre-tax charge ($13.4 million after tax) for the write-off of inventory associated with terminated production runs and validation costs associated with our Belgium facility that were incorrectly capitalized from January to September 2008.

(2) Includes:

- for the second quarter of 2007:
  - a $64.0 million non-deductible charge for the final court approved settlement agreement of the litigation related to the consolidation of our former tracking stocks; and
  - a $25.0 million pre-tax charge ($15.9 million after tax) for the up-front payment we made to Ceregene in June 2007 related to our collaboration with Ceregene for the development of a gene therapy product for Parkinson's disease;

- for the third quarter of 2007, $11.8 million of pre-tax charges ($7.5 million after tax) to write off certain lots of our Thymoglobulin finished goods inventory that did not meet our specifications for saleable product;
- for the fourth quarter of 2007:
  - a $106.4 million pre-tax charge for IPR&D ($97.5 million after tax), related to our acquisition of Bioenvision in October 2007; and
  - $14.8 million of pre-tax manufacturing related charges ($9.5 million after tax), including $9.1 million of pre-tax charges to write off additional lots of our Thymoglobulin finished goods inventory that did not meet our specifications for saleable product and $5.7 million of pre-tax charges to write off costs related to the manufacture of tolevamer at our manufacturing plants in the Republic of Ireland and the United Kingdom.

(3) Includes:

- for the first quarter of 2007, a $10.8 million pre-tax gain ($8.2 million after tax) related to the sale of our investment in THP; and
- for the third quarter of 2007, a $19.1 million pre-tax charge for IPR&D ($12.2 million after tax), which we recorded as equity in income (loss) of equity method investments, representing our proportionate share of the fair value of the IPR&D programs of Bioenvision following the completed tender offer in July 2007.

The following quarterly selected consolidated financial data have been derived from the consolidated financial statements for the periods indicated which have not been audited. We have revised our quarterly consolidated balance sheets as of March 31, 2008, June 30, 2008, and September 30, 2008 for the correction of an error related to the carrying amount of other intangible assets, net and other noncurrent liabilities recorded as a result of the consolidation of Biomarin/Genzyme LLC, effective January 1, 2008. This is further discussed in Note J., "Equity Method Investments," to these consolidated financial statements.

The effect of this revision had no impact on our consolidated statements of operations or consolidated statements of cash flows for any of the revised quarterly periods. We have determined that these adjustments are not material to our consolidated financial statements for any of the quarterly periods affected; therefore, no revisions have been made to the 2008 consolidated financial statements included in our previously filed Form 10-Qs for this matter (amounts in thousands):

	March 31, 2008 As Revised	June 30, 2008 As Revised	September 30, 2008 As Revised
Total current assets	$2,780,389	$2,629,830	$2,810,106
Other intangible assets, net(1)	$1,745,488	$1,755,918	$1,703,793
Total assets	$8,845,806	$8,948,608	$9,184,344
Total current liabilities	$1,475,663	$1,492,143	$1,476,028
Other noncurrent liabilities(1)	$ 295,472	$ 291,121	$ 332,772
Total liabilities	$1,897,815	$1,907,204	$1,948,460
Total stockholders' equity	$6,947,991	$7,041,404	$7,235,884
Total liabilities and stockholders' equity	$8,845,806	$8,948,608	$9,184,344

(1) Adjustments were recorded to reduce other intangible assets, net and other noncurrent liabilities by $237.2 million, $234.2 million, and $231.2 million as of March 31, 2008, June 30, 2008, and September 30, 2008, respectively.

Report of Independent Registered Public Accounting Firm on Financial Statement Schedule

To the Board of Directors and Shareholders
of Genzyme Corporation:

Our audits of the consolidated financial statements and of the effectiveness of internal control over financial reporting referred to in our report dated February 27, 2009 appearing in the 2008 Annual Report to Shareholders of Genzyme Corporation (which report and consolidated financial statements are incorporated by reference in this Annual Report on Form 10-K) also included an audit of the financial statement schedule listed in Item 15(a)(2) of this Form 10-K. In our opinion, this financial statement schedule presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements.

/s/ PricewaterhouseCoopers LLP

Boston, Massachusetts
February 27, 2009

GENZYME CORPORATION

SCHEDULE II—VALUATION AND QUALIFYING ACCOUNTS
FOR THE YEARS ENDED DECEMBER 31, 2008, 2007 AND 2006

Column A	Column B	Column C		Column D	Column E
		Additions			
Description	Balance at Beginning of Period	Charged to Costs and Expenses	Charged to Other Accounts	Deductions	Balance at End of Period
Year ended December 31, 2008:					
Accounts receivable allowances . .	$40,287,000	$12,933,000	$ 14,071,000	$ 26,916,000	$ 40,375,000
Rebates	$90,437,000	$ —	$203,333,000	$160,865,000	$132,905,000
Year ended December 31, 2007:					
Accounts receivable allowances . .	$52,563,000	$ 9,664,000	$ 10,964,000	$ 32,904,000	$ 40,287,000
Rebates	$62,166,000	$ —	$149,967,000	$121,696,000	$ 90,437,000
Year ended December 31, 2006:					
Accounts receivable allowances . .	$46,127,000	$10,050,000	$ 13,627,000	$ 17,241,000	$ 52,563,000
Rebates	$50,304,000	$ —	$115,500,000	$103,638,000	$ 62,166,000

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