ORPHAN MEDICAL INC
Form 10-K/A
July 20, 2004

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K/A
(Amendment No. 3)

(Mark One)

[X] Annual Report pursuant Section 13 or 15(d) of the Securities Exchange Act of 1934 [No Fee Required]
For the fiscal year ended December 31, 2003

or

Transition report pursuant to section 13 or 15(d) of the Securities Exchange Act of 1934 [No Fee Required]
[ ] For the transition period from _____ to _____

Commission File Number 0-24760

Orphan Medical, Inc.

(Exact name of registrant as specified in its charter)

DELAWARE	**41-1784594**
(State or other jurisdiction of incorporation organization)	(I.R.S. Employer Identification Number)
13911 Ridgedale Drive, Suite 250, Minnetonka, MN 55305	**(952) 513-6900**
(Address of principal executive offices and zip code)	(Registrant s telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act: **None**

Securities registered pursuant to Section 12(g) of the Act: **Common Stock, $.01 Par Value**

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, and (2) has been subject to such filing requirements for the past 90 days. Yes [**X**] No [ ]

Indicate by check mark whether the registrant is an accelerated filer (as defined in Exchange Act Rule 12b-2). Yes [X] 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. [ ]

Aggregate market value of common stock held by non-affiliates of Registrant, based upon the last sale price of the Common Stock reported on the Nasdaq National Market tier of The Nasdaq Stock Market on June 30, 2003 was $83,493,000 based on approximately 9,135,000 shares held by non-affiliates at that date.

As of April 30, 2004 the Company had 10,841,296 shares of Common Stock outstanding.

Documents Incorporated By Reference

Portions of the Registrant s Definitive Proxy Statement filed with the Securities and Exchange Commission in connection with the solicitation of proxies for the Registrant s Annual Meeting of Shareholders to be held on June 15, 2004 are incorporated by reference in Part III, Items 10, 11, 12, 13 and 14 of this Form 10-K.

EXPLANATORY NOTE

This Form 10-K/A Amendment No. 3 amends the Registrant s Annual Report on Form 10-K for the year ended December 31, 2003 filed on March 15, 2004, as previously amended on March 19, 2004 and June 9, 2004.

PART I.

This Annual Report contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All forward-looking statements are inherently uncertain as they are based on current expectations and assumptions concerning future events or future performance of the Company. Readers are cautioned not to place undue reliance on these forward-looking statements, which are only predictions and speak only as of the date hereof. Forward-looking statements are not descriptions of historical facts. The words or phrases will likely result , look for , may result , will continue , is anticipated , expect , pro similar expressions are intended to identify forward-looking statements, and are subject to numerous known and unknown risks and uncertainties. Actual results could differ materially from those currently anticipated due to a number of factors, including those identified in the Cautionary Statements filed as an Exhibit to this Annual Report on Form 10-K, and in the Company s other filings with the Securities and Exchange Commission. The Company undertakes no obligation to update or publicly announce revisions to any forward-looking statements to reflect future events or developments.

Antizol®, Antizol-Vet®, Cystadane®, Xyrem®, MedExpand , The Orphan Drug Company , Xyrem Success Program , Orphan Medical, Inc.® and Dedicated to Patients with Uncommon Diseases® are trademarks of the Company.

ITEM 1. BUSINESS

Overview

Orphan Medical, Inc. is a specialty pharmaceutical company focused primarily on sleep disorders, pain and other central nervous system (CNS) disorders. We seek to acquire, develop and market pharmaceutical products that are prescribed by physician specialists and offer a major improvement in the safety or efficacy of patient treatment and have no substantially equivalent substitute.

The Company s lead product, Xyrem® (sodium oxybate) solution is approved for the treatment of cataplexy, a debilitating symptom of narcolepsy, a sleep disorder. The Company markets Xyrem using a 37 person specialty sales force that focuses its selling efforts on physicians specializing in the treatment of sleep disorders. Clinical trials conducted in accordance with United States Food and Drug Administration (FDA) approved protocols have shown that Xyrem consolidates sleep and increases sleep continuity and non-REM sleep, particularly Stages III and IV, which stages are known as slow-wave sleep. Stages III and IV are the stages in which the body experiences the greatest level of restoration. Although currently marketed hypnotics, as well as those in late stage clinical trials, facilitate sleep onset and maintenance, they tend to reduce rather than increase slow-wave sleep. The active ingredient of Xyrem, sodium oxybate or gamma hydroxybutyrate, has also been shown to have other activity that may have therapeutic significance.

Recognizing the significant long-term potential of Xyrem, the Company has initiated a range of clinical development and product development programs. Two clinical trials that are near completion may demonstrate that Xyrem treats excessive daytime sleepiness (EDS) and other symptoms of narcolepsy. If the results of these trials are positive, Xyrem could be marketed to the entire narcolepsy market, which is estimated to affect approximately .05% of the population or 100,000 to 140,000 persons in the United States. We also expect to begin a clinical trial in the first half of 2004 to assess Xyrem in treating the symptoms of Fibromyalgia Syndrome (FMS). FMS is a chronic condition characterized by widespread muscular pain, musculoskeletal discomfort, fatigue, and systemic symptoms. FMS is estimated to affect over 4 million Americans. If Xyrem demonstrates efficacy in treating certain FMS symptoms, additional trials will be conducted in order to obtain FDA approval to market Xyrem to physicians treating this condition.

We are assessing another product, butamben (butyl-p-amino benzoate), as a treatment for intractable cancer pain and, depending on its safety and efficacy profile, other chronic pain conditions as well. Butamben is a unique long-acting ester local anesthetic that is selective for afferent pain fibers with no measurable residual sensory or motor effects. It also appears to provide long-lasting effects, averaging about 6 months in humans in studies to date. We expect to begin clinical trials after meeting with the FDA to present our development plan for butamben.

In addition to expanding the labeling of Xyrem and developing Butamben, we plan to build our presence in specialty CNS markets through the acquisition of both development stage compounds and marketed products. The Company generally seeks to develop products that (1) have some clinical history, (2) have a straightforward formulation that can be readily manufactured with established technologies, and (3) do not require excessive specialized processes for development or manufacture. We do not conduct extensive basic research to discover new chemical entities.

In 2003, we sold all rights to three of our products in order to concentrate resources on Xyrem and enhance our focus on sleep, pain and specialty CNS markets. Medicines developed or acquired in the future may hold orphan drug status, although we may develop or acquire products that do not hold such status if we can obtain appropriate proprietary protection through patents or otherwise. A drug that has orphan drug designation and which is the first product to receive marketing approval for its product claim, indication or application, receives orphan drug status and is entitled to a seven-year exclusive marketing period in the United States for that product claim and a 10-year exclusive period in Europe for that product claim, indication or application, subject to certain limitations.

Since its inception, the Company has obtained New Drug Application (NDA) approvals from the United States Food and Drug Administration (FDA) for six specialty pharmaceutical products. Each of the NDAs was granted Orphan Drug Status by the FDA. We currently market three FDA approved drugs:

Xyrem® (sodium oxybate) oral solution, for the treatment of cataplexy associated with narcolepsy; Antizol® (fomepizole) Injection, an antidote for ethylene glycol or suspected ethylene glycol ingestion in humans and an antidote for methanol or suspected methanol ingestion in humans; and Cystadane® (betaine anhydrous for oral solution), for homocystinuria, a genetic disease. Antizol-Vet® (fomepizole) for injection, an antidote for ethylene glycol or suspected ethylene glycol ingestion in dogs was approved using a New Animal Drug Application (NADA). The Company continues to market Antizol, Antizol-Vet, and Cystadane, to treat disorders outside of CNS to help reduce losses since they have attractive gross and operating margins. In the second quarter of 2003, the Company sold its rights to three products, Busulfex, Sucraid and Elliotts B Solution.

Our activities have consisted primarily of obtaining the rights for pharmaceutical products, hiring the personnel required to implement our business plan, managing the development of these products, preparing for the commercial introduction of these products and raising capital to

support our business operations.

Orphan Medical, Inc. was incorporated on June 17, 1994 as a Minnesota corporation to carry on the business previously conducted by the Orphan Medical division of Chronimed, Inc. The business was reincorporated as a Delaware corporation on September 1, 2000. We have not generated sufficient levels of revenue from our approved products to date to fund our operating activities and have sustained significant operating losses each year since inception. We expect operating losses to continue at least through 2004. Our operations to date have not been profitable and as of March 31, 2004 we have an accumulated deficit of $60.8 million since inception.

The Company continues to market two smaller market products that treat conditions outside of CNS disorders. These products are maintained to help reduce losses since they have attractive gross and operating margins.

Our corporate offices are located at 13911 Ridgedale Drive, Suite 250, Minnetonka, Minnesota 55305. Our telephone number is 952-513-6900 and our website is www.orphan.com. The information on our website is not incorporated into and is not intended to be a part of this report. We make available free of charge on or through our website our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practible after we electronically file such material with, or furnish it to, the United States Securities and Exchange Commission. Unless the context otherwise indicates, all references to the Registrant , the Company , or Orphan Medical in this Form 10-K relate to Orphan Medical, Inc.

Our Strategy

Orphan Medical has set its strategic vision on becoming an integrated CNS specialty pharmaceutical company. In this regard, the Company has decided to focus its development and commercial efforts, at least initially, in the areas of sleep disorders and pain. Other CNS disorders will be considered as the Company progresses with its CNS specialty pharmaceutical strategy.

The sleep disorders market is a large therapeutic area affecting an estimated 70 million to 100 million (Source: 2002 National Sleep Foundation Sleep in America Poll) adults in the United States, yet sleep disorders is still a market with significant unmet needs. Moreover, there is increasing recognition of the role of sleep across a range of diseases and its role in health is becoming broadly recognized. Sleep disorders have been underdiagnosed since symptoms are vague and often are missed by physicians. Therefore, sleep disorders or related illnesses may go undiagnosed and untreated for a number of years. The broader specialty CNS area is one of significant opportunities. Outside the major therapeutic areas of depression and schizophrenia, there is a wide range of diseases with unmet medical needs. Our lead product, Xyrem, has the potential to address a number of specialty CNS diseases including narcolepsy, insomnia and fibromyalgia syndrome and the Company has built unique development and commercial capabilities to address several of these opportunities. Epidemiolody studies (including NSF 2002 and Epidemiology Catchment Assessment; Mattson, Jack 4/22/2002) estimate a prevalence for insomnia exceeding 40% of the adult population in the United States. This is approximately 80 million people. According to the Mayo Clinic in a publication dated April 22, 2003, fibromyalgia affects three to eight million people in the United States. The market opportunity associated with each of these indications exceeds $1.0 billion on an annual basis. Other specialty CNS areas of high strategic interest to the Company include Parkinson s disease, epilepsy, movement disorder, Huntington s disease, sleep apnea, Alzheimer s disease and mild cognitive impairment. Building on its current capabilities and expertise, the Company believe it could develop a meaningful presence in these therapeutic areas with key specialist audiences, i.e., sleep specialists, neurologists and psychiatrists.

Xyrem and butamben are the cornerstones of our strategy. Xyrem is currently approved for cataplexy associated with narcolepsy and has application in several other sleep-related disorders. It also has potential utility in fibromyalgia, an increasingly recognized pain disorder. Butamben is expected to be developed for chronic cancer pain, and possibly chronic pain from other causes.

Orphan Medical believes it can apply its competitive advantages to build a specialty pharmaceutical company focused on diseases of the CNS. The Company aims to:

- Avoid large market CNS diseases and concentrate on unmet needs in diseases that are treated by neurologists, psychiatrists, sleep specialists and pain specialists
- Build on the Company s expertise in, and the science of, Gamma Hydroxybutyrate (GHB)

- Expand the Company s marketing and sales presence in the sleep community in order to market other high value products that treat sleep disorders
- Assess and develop products that address pain treated by specialist physicians

- Acquire marketed as well as development stage products that can be marketed through the Company s sales organization and distribution systems

As in all industries, companies that survive and grow long-term must have sustainable uniqueness. The factors of success in the specialty segment of the pharmaceutical industry are:

- A strong and experienced management team
- The capability to develop medicines as well as the ability to acquire drugs in therapeutic areas that the Company has scientific and clinical expertise
- A marketing and sales presence that reaches a concentrated set of prescribers
- Products with growth potential that address unmet medical needs
- An ability to address regulatory issues
- Having good access to capital markets

Products

The following tables summarize certain information relating to the Company s products:

Marketed Products

Approved Product	Application	NDA Approval Date	Orphan Drug Status**
Xyrem® (sodium oxybate) oral solution	For the treatment of cataplexy associated with narcolepsy	July 2002	Granted
Antizol® (fomepizole) Injection	Antidote for ethylene glycol (antifreeze) or suspected ethylene	December 1997	Granted

Approved Product	Application	NDA Approval Date	Orphan Drug Status**
	Antidote for methanol poisoning and suspected methanol ingestion in humans	December 2000	Granted
Cystadane® (betaine anhydrous for oral solution)	Homocystinuria, a genetic disease	October 1996	Granted
Antizol-Vet® (fomepizole) for injection	Antidote for ethylene glycol (antifreeze) or suspected ethylene glycol ingestion in dogs	November 1996	Five year period of exclusivity

Products Under Development

Investigational Product	Proposed Application	Phase of Development*	Orphan Drug Designation**
Xyrem® (sodium oxybate) oral solution	EDS/Narcolepsy	III(b)	
Xyrem® (sodium oxybate) oral solution	Fibromyalgia	IND	
Butamben***	Cancer Pain	II	

* Development Phases are discussed under Business The Regulatory Process .

** Orphan Drug Designation and Status are discussed under Business Proprietary Rights .

*** The Company holds an inactive investigational new drug application (IND) at the FDA. See discussion under PRODUCTS UNDER DEVELOPMENT.

Approved Products

Xyrem® (sodium oxybate) oral solution

Narcolepsy is a chronic neurologic sleep disorder in which sleep is fragmented, and does not occur in an integrated and cohesive manner. This fragmentation results in excessive daytime sleepiness (EDS), unavoidable daytime sleep attacks, cataplexy (a sudden loss of muscle control provoked by emotions), sleep paralysis (brief periods of muscle paralysis) and hallucinations (vivid and sometimes frightening dreaming when falling asleep or waking up). Other related symptoms include broken nighttime sleep, disturbances of auditory and visual perception, and lapses of consciousness and memory problems. These symptoms can lead to a variety of complications, such as limitations on education and employment opportunities, driving or machine accidents, difficulties at work resulting in disability, forced retirement or job dismissal, and depression. Based on published epidemiology studies, including Ohayon, MM. Prevalence of Narcolepsy Symptomology and Diagnosis in European General Population, *Neurology* 2002; 58:1826-1833; Roln, 1998; Mignot, 1998; Hublin et al., 1994c; Dement, et al., 1973 and Aldriaon, 1992, narcolepsy is thought to affect approximately 100,000 to 140,000 persons in the United States.

The second most common symptom of narcolepsy is cataplexy. Cataplexy is the most specific feature of narcolepsy and its presence is diagnostic. Published epdemiology studies, including Basseth, C. Narcolepsy *Neurology Clinics* 1996; 14(3): 545-550; Overcem, S. *Journal of Clinical Neurophysiology* 2001; 18(2): 78-105; and Chaud Harg, M.D. *The Journal of Family Practice* 1993; 36(2): 207-213, suggest that the prevalence of cataplexy in narcolepsy ranges from 60% to 90%. However, according to published studies and our proprietary market research, only about one-fourth to one-third of persons who are diagnosed with narcolepsy are also diagnosed with, and treated for, cataplexy.

Estimating the number of patients with narcolepsy who seek treatment is challenging. Utilizing national insurance databases, it is estimated that approximately 55% or about 55,000 to 75,000 patients with narcolepsy are diagnosed and treated. Furthermore, it is estimated that about one-third of the 55,000 to 75,000-treated narcolepsy patients, or 18,500-25,000 patients, are also diagnosed with and treated for cataplexy. The one-third treatment rate contrasts with the 60% to 90% prevalence rate of cataplexy in patients with narcolepsy. We estimate that the average revenue per patient with Xyrem is approximately $4,000 annually. Accordingly, we estimate the market for cataplexy associated with narcolepsy to approach $100 million and could exceed $100 million if treatment rates for those diagnosed with cataplexy increase in the future.

As discussed below under the heading Xrem® (sodium oxybate) oral solution-Excessive Daytime Sleepiness we are conducting clinical trials to expand the indication for Xyrem for the treatment of EDS associated with narcolepsy. If approved for EDS, the potential market for Xyrem could be in the range of $200 million to $300 million based on estimates of the number of people with narcolepsy in the U.S.

The standard treatment for excessive daytime sleepiness and sleep attacks in patients with narcolepsy are stimulants or wakefulness promoting agents. The symptoms of cataplexy, sleep paralysis and hypnagogic hallucinations have typically been treated with tricyclic antidepressants (TCAs) or selective serotonin reuptake inhibitors (SSRIs). These treatment regimens, in addition to limited efficacy, are often unsatisfactory for a number of other reasons. Amphetamines and other stimulants often cause undesirable side effects such as insomnia, hypertension, palpitations, irritability and, at higher doses, may mimic the symptoms of schizophrenia. Patients often build tolerance to the TCAs and SSRIs and doses are increased to obtain clinical effectiveness. These medications can cause the side effects of dry mouth, impotence, loss of libido, and increased heart rate. Clinical results with Xyrem suggest that it is effective in the treatment of narcolepsy symptoms. Administered at night, it is believed to consolidate sleep and has been shown to reduce cataplexy attacks, and to reduce the severity of daytime sleepiness when used in combination with stimulants during the day. Following initial clinical trials and subsequent commercial use, thousands of narcolepsy patients have been exposed to clinical doses with an acceptable side effect profile. Xyrem does not appear to have the side effects associated with TCAs and SSRIs. Narcoleptic patients could be treated with Xyrem at night and, if needed, with stimulants during waking hours.

The Company submitted its NDA for Xyrem on October 2, 2000 and was granted approval on July 17, 2002. The product is indicated for the treatment of cataplexy associated with narcolepsy. The Company began shipping product in September 2002 and the commercial launch commenced on October 7, 2002. Through December 31, 2003 over 4,000 patients have been prescribed Xyrem by over 1,200 physicians.

Gamma hydroxybutyrate (GHB), also known as sodium oxybate, is the active ingredient in Xyrem. Illicitly produced GHB has been reported to be a drug of abuse. On February 18, 2000, President Clinton signed PL 106-172, a public law that makes GHB a Schedule I substance. Schedule I is the designation by which illegal drugs are controlled. The bill further delineates GHB products being studied under Food and Drug Administration (FDA) approved protocols or approved for commercial sale as Schedule III substances.

Each state has the ability to schedule products more strictly or equivalent to the federally designated schedule. Most states have adopted, either administratively or legislatively, the I/III schedule as described above. The Company continues its efforts to promote consistency of scheduling across all states.

Sodium oxybate (GHB) is a known compound and is not patentable. The Company has received orphan drug status for its indicated use of Xyrem in the U.S. There are no license fees or royalty payments associated with Xyrem revenues. FDA orphan drug status extends through July 17, 2009. Upon expiration of orphan drug status, our products might be subject to competition from other pharmaceutical companies. The Company has an issued formulation patent, which expires

on December 22, 2019. Other patents are pending. The Company has contracted with third-party bulk drug and drug product manufacturers for the production of Xyrem under Good Manufacturing Practices (GMP) conditions.

Antizol® (fomepizole) Injection

Antizol received marketing clearance from the FDA in December 1997 for suspected or confirmed ethylene glycol poisonings and December 2000 for suspected or confirmed methanol poisonings. We commenced shipping Antizol in December 1997. Antizol is primarily used in a hospital setting and is distributed for us by an affiliate of Cardinal Health. When ingested by humans, ethylene glycol (found in antifreeze) and methanol (found in windshield wiper fluid) can lead to death or permanent and serious physical damage. Based on recent revenue trends, we believe that hospital pharmacies will continue to stock Antizol because it is important to treat poisoned patients very quickly in order to improve the chances of successful recovery. For 2003, Antizol contributed approximately 41% of our total revenues. We estimate that over one-third of all hospitals with emergency rooms currently stock the product. Antizol has become the standard of care for toxic alcohol poisoning and guidelines issued by the American Academy of Clinical Toxicologists recommended Antizol as the drug of choice for such poisonings. Since not every hospital will stock antidotes, we expect to see limited incremental stocking by hospitals in 2004. Future sales will be based more on usage as stocking levels are expected remain constant. We have also received marketing approval for Antizol in Canada for the treatment of

suspected or confirmed ethylene glycol poisonings.

We have obtained orphan drug status for Antizol as an antidote to treat ethylene glycol and methanol poisonings, which provides marketing exclusivity to us through December 2004 for ethylene glycol and December 2007 for methanol. We have contracted with a third party for the production of Antizol under GMP conditions. Through a sublicense agreement with Mericon Investment Group, Inc. (MIG), we have an exclusive, worldwide license to develop and market Antizol, which expires in July 2013, subject to a five year renewal through July 2018 exercisable by MIG at our request. This agreement includes a royalty that is paid quarterly.

Cystadane® (betaine anhydrous for oral solution)

Cystadane received marketing clearance from the FDA in October 1996. The first commercial sales of Cystadane occurred in December 1996. Cystadane is distributed by an affiliate of Cardinal Health to patients in the United States through retail pharmacies. It is the first agent approved by the FDA for the treatment of homocystinuria, an inherited metabolic disease. The clinical consequences are wide-ranging and include dislocation of the ocular lens, early (under age 30) thromboembolism, developmental and mental retardation and reduced life span related to elevated plasma homocysteine levels. Based on published epidemiology studies, it has been estimated that homocystinuria occurs approximately once in every 200,000 live births worldwide (Sources: Sokalova et al., 2001; Linnabank et al., 2001; Yap, 2003) and that there are estimated to be 1,000 patients with homocystinuria in the United States. Based on the Company s historical domestic revenue growth rate of 10-15% for this product, the Company estimates that the annual market potential for Cystadane may approach $1.0-$1.5 million in the United States. The Company receives sales revenue generated outside of the United States through its licensees. Cystadane revenues met the Company s expectations in 2003 and are expected to grow slightly in subsequent periods. The Company believes that the small size of the market and the high medical value of Cystadane justify the limited resources required by the Company to continue making this product available to patients.

The Company obtained orphan drug status for Cystadane for the treatment of homocystinuria, which provided marketing exclusivity to the Company through October 2003. The Company does not expect the expiration of orphan drug protection to significantly impact the sales of Cystadane in 2004 given the relatively small market size. The Company has contracted with a third party for the production of Cystadane under GMP conditions. No license was required for the Company to develop and market Cystadane.

The Company is not currently sponsoring any clinical trials with/for Cystadane but is aware of, and supporting through unrestricted grants, clinical trials being conducted by independent investigators affiliated with major hospitals to assess the safety and efficacy of Cystadane as a stand alone or adjunctive therapy for the following indications: Non-alcoholic steatohepatitis, Rett syndrome, rheumatoid arthritis and hyperhomocystinemia. The Company does not expect that the results of any of these clinical trials will significantly enhance or decrease the current limited market potential for Cystadane in the near future. Depending on the results, these trials may result in potential long-term opportunities for us.

Antizol-Vet® (fomepizole) for injection

In November 1996, the Center for Veterinary Medicine of the FDA approved Antizol-Vet as a treatment for dogs that have ingested or are suspected of having ingested ethylene glycol. The first commercial sales of Antizol-Vet occurred in January 1997. The earlier an ethylene glycol poisoned dog is treated with Antizol-Vet, the more likely that there will be a positive

outcome. The annual market potential for Antizol-Vet is expected to be under $300,000. We have found that stocking of this product has been limited due to its high cost, but it is ordered when a poisoning occurs. Antizol-Vet revenues met our expectations in 2003 and are expected to remain constant or decline in subsequent periods. Revenues from this product have not been nor will they be material to our product revenue.

Federal law provided us with a marketing exclusivity period through November 2001 for the use of Antizol-Vet in dogs for the approved indication. We have contracted with a third party for the production of Antizol-Vet under GMP conditions.

We have partnered with several leading regional and national veterinary wholesalers to distribute Antizol-Vet to veterinary clinics. It is believed that the current partners effectively and efficiently encompass the entire country with limited sales territory overlap, thus helping prevent downward retail pricing pressures. We do not anticipate adding additional distribution partners. These agreements do not result in material revenue.

Disposition of products

On June 10, 2003, we announced the disposition of Busulfex® (busulfan) Injection to ESP Pharma, Inc. for $29.3 million plus the book value of inventory, approximately $0.2 million. We announced the sale of the product Sucraid® (sacrosidase) oral solution to a specialty pharmaceutical company on May 6, 2003 for $1.5 million. We also divested a third product, Elliotts B Solution® to the same specialty company for proceeds that were not material. Proceeds from these dispositions will be used for further development and marketing of Xyrem and for the creation of a

stronger presence in the sleep and central nervous system (CNS) markets.

Products Under Development

We incurred $10.8 million, $8.7 million and $7.0 million of Product Development expenses for the years ended December 31, 2003, 2002 and 2001, respectively. We had $14.7 million of outstanding commitments for spending associated with product development spending for the following development projects at December 31, 2003.

Sleep Disorders Investigational Products

Xyrem® (sodium oxybate)® oral solution-Excessive Daytime Sleepiness

We are conducting two Phase III (b) clinical trials for Xyrem. These controlled clinical trials assess the efficacy of Xyrem in treating excessive daytime sleepiness (EDS) related to narcolepsy. These trials continue to progress toward completion in early 2004 with the data to be compiled into a supplemental New Drug Application (sNDA) to the FDA expected in the second half of-2004. We expect that the FDA will take action on this sNDA in mid 2005. If approved, this sNDA may provide an expanded indication which could increase the market opportunity for the product. We expect to incur approximately $5.0 million of expenses in 2004 for the completion of these trials. We incurred expenses related to these trials of $5.0 million, $2.5 million and $1.5 million in the fiscal years ended December 31, 2003, 2002 and 2001, respectively.

Xyrem® (sodium oxybate)® oral solution-Fibromyalgia

Fibromyalgia is a syndrome characterized by widespread pain that cannot be explained by an inflammatory or degenerative musculoskeletal disorder. Fatigue, depression, and somatic symptoms are also often present. The prevalence of fibromyalgia has been reported in several epidemiological studies. The estimated prevalence ranges from 1-4% of the adult population, a prevalence rate of 2% is most commonly cited in the literature. Accordingly, about 4.2 million Americans over the age of 18 have fibromyalgia.

We plan to initiate a proof-of-principle trial at an estimated cost of $3.0 million to $4.0 million to be incurred in 2004 and 2005 to assess the efficacy of Xyrem in the treatment of the symptoms of fibromyalgia. Patient enrollment in this trial is expected to begin in the second quarter of 2004. Data from this trial is expected to be available in mid 2005. At that time we will determine whether or not to pursue a development program in support of a regulatory application. The nature and scope of a potential development program cannot be determined until this trial is complete and the data is available. Therefore, the total costs and timing of a potential development program are uncertain at this time.

Butamben (butyl-p-amino benzoate)

Butamben is a new treatment for pain. It is intended to provide physicians with an effective adjunct for their patients who require long-term management of moderate-to-severe chronic pain. Butamben is a unique, material-based, long-acting local anesthetic that is delivered by epidural injection. It selectively blocks pain afferentation by blocking transmission in A delta and C fibers in peripheral nerves. Butamben blocks fast-sodium ion channels, which leads to hyperpolarization of the neuronal membrane and long-term pain control. It is non-neurolytic and non-narcotic. Butamben provides effective, long-term relief from pain, with no motor blockade and minimal side effects. The product will be used initially in patients who either have pain that is not alleviated by escalating doses of oral analgesics or need relief from the side effects that accompany these escalating doses. Treatment with butamben may allow patients to reduce their doses of oral analgesics, and thereby reduce dose-related analgesic side effects. Butamben is currently in Phase II clinical development. We hold an inactive IND at the FDA for butamben. We are in the process of defining the manufacturing process for butamben and, if successful, will submit a new chemistry and manufacturing package to the FDA and then expect to meet with the FDA to review a development program for this product. At that time, if we pursue a product development program, we will take action to reactivate the IND at the FDA. Human clinical trials will not begin until after we meet with the FDA to review the proposed development program. Because the nature and scope of the potential development program cannot be determined until after the currently unscheduled meeting with the FDA, the costs and timing of a development program are uncertain at this time. The total expected cost of defining the manufacturing process and other related costs in determining whether or not to pursue a development program is approimately $0.5 million, most of which will be incurred in 2004. We do not expect any revenue from this product until at least 2007.

Product Development Risk Management

Our product strategy has been designed, in part, to mitigate its overall business risk. We have pursued multiple distinct therapeutic areas within CNS such as sleep and pain pharmaceuticals rather than concentrating financial, development and marketing resources on a single therapeutic area or a single platform technology. To reduce its product development risk, we generally seek to develop products that (1) have

some clinical history, (2) have a straightforward formulation that can be readily manufactured with established technologies, and (3) do not require excessive specialized processes for development or manufacture. In addition, we generally seek to acquire products that are already in Phase II or Phase III clinical trials, or in an earlier stage of development with proof of concept established. When a product is licensed without the equivalent of Phase II or III data, we may conduct one or more proof of concept trials to better assess the likelihood of efficacy or safety. Each such pilot trial is narrowly defined. We do not conduct extensive basic research to discover new chemical entities. We may also purchase

rights to approved products. To reduce its marketing risk, we generally attempt to obtain some form of proprietary protection, such as patent protection, orphan drug status, exclusive licensing agreements, or sole supplier agreements.

Proprietary Rights

We believe it is important that our products receive patent protection or orphan drug status or have other factors that limit potential competition. When available and appropriate, we will seek orphan drug status to enhance or provide proprietary protection to a product. A drug that has orphan drug designation and which is the first product to receive marketing approval for its product claim, indication or application, receives orphan drug status and is entitled to a seven-year exclusive marketing period in the United States for that product claim and a 10-year exclusive period in Europe for that product claim, indication or application, subject to certain limitations. We have two products with orphan drug status. Applications for orphan drug designation will be made when and where appropriate and available for any additional indications or products that may be licensed in the future.

Orphan drug protection is available in Japan and the European Union under requirements similar to those in the United States. An important distinction in the European Union is the ten-year period of marketing exclusivity for products designated as orphan drugs, compared to seven years of exclusivity in the United States. The period of exclusivity in the European Union also begins upon marketing approval.

With respect to additional products we may license in the future, if any, we expect that such licenses would include, if such rights are available, an assignment of the licensor s proprietary rights with respect to the licensed product. We also seek foreign patent protection for our products and have applied for patents outside the U.S. for Xyrem. We have licensed two patents related to butamben, a product that is being evaluated for development. We are in the process of defining the manufacturing process for butamben and, if successful, expect to have a second meeting with the FDA to finalize a development program for this product. We evaluate the desirability of registering approved patents or other forms of protection for our products in individual foreign markets based on the expected costs and relative benefits of attaining such protection.

The Regulatory Process

Pharmaceutical products intended for therapeutic use in humans are governed by extensive FDA and other federal regulations in the United States and by comparable regulations in foreign countries. The process of seeking and obtaining FDA approval for a previously unapproved new human pharmaceutical product generally takes many years and involves the expenditure of substantial resources and considerable risk.

Before a drug product can be investigated or marketed in the United States, the following general steps are required: (i) pre-clinical laboratory and animal safety tests, (ii) the submission to the FDA of an IND, (iii) clinical and other studies to assess safety and parameters of use, (iv) adequate and well-controlled clinical trials to establish the safety and effectiveness of the drug product, (v) the submission to the FDA of an NDA, (vi) FDA approval of the NDA prior to any commercial sale or shipment of the product, (vii) marketing of the drug, and (viii) post-approval safety and risk monitoring.

Typically, pre-clinical studies are conducted in the laboratory and in animal model systems to gain preliminary information on the product s pharmacology and toxicology and to identify any potential safety problems that would preclude testing in humans. The results of these studies, together with the general investigative plan, protocols for specific human studies and other information, are submitted to the FDA as part of the IND application. The FDA regulations do not, by their terms, require FDA approval of an IND. Rather, if the FDA does not notify the sponsor to the contrary within 30 days of receipt of the IND, they allow a clinical investigation to commence. As a practical matter, however, FDA approval is often sought before a company commences clinical investigations. That approval may come within 30 days of IND receipt, but may involve substantial delays if the FDA requests additional information.

The initial phase of clinical testing (Phase I) is conducted to evaluate the metabolism and pharmacological actions of the experimental product in humans, as well as the side effects associated with increasing doses, and, if possible, to gain early evidence of possible effectiveness. Phase I studies can also evaluate various dosages, methods and schedules of product administration. These studies generally involve a small number of healthy volunteer subjects, but may be conducted in people with the disease that the product is intended to treat. The total number of subjects is generally in the range of 20 to 80. A demonstration of therapeutic benefit is not required in order to complete Phase I trials successfully. If acceptable product safety is demonstrated, Phase II trials may be initiated.

Phase II trials are designed to evaluate the effectiveness of the product in the treatment of a given disease and involve patients with the disease under study. These trials often are well-controlled, closely monitored studies involving a relatively small number of subjects, usually no more than several hundred. The optimal dosages, methods and schedules of administration are determined in these studies. If Phase II trials are successfully completed, Phase III trials are often commenced, although Phase III trials are not always required, particularly for drugs of high medical value intended for smaller patient populations.

Phase III trials are expanded, controlled trials that are performed after preliminary evidence of the effectiveness of the experimental product has been obtained. These trials are intended to gather the additional information about safety and effectiveness needed to evaluate the overall risk/benefit relationship of the experimental product. In addition, these trials provide the substantial evidence of both effectiveness and safety necessary for product approval. Phase III trials usually involve from several hundred to several thousand subjects.

A clinical trial may combine the elements of more than one phase (i.e., a Phase I/II or II/III trial) and typically two or more Phase III studies are required for FDA approval. A company s designation of a clinical trial as being of a particular Phase is not necessarily indicative that such a trial will be sufficient to satisfy the FDA requirements of that Phase because this determination cannot be made until the protocol and data have been submitted to and reviewed by the FDA. In addition, a clinical trial may contain elements of more than one Phase notwithstanding the designation of the trial as being of a particular Phase. The FDA closely monitors the progress of the Phases of clinical testing and may, at its discretion, re-evaluate, alter, suspend or terminate the testing based on the data accumulated and its assessment of the risk/benefit ratio to patients. It is not possible to predict with certainty the time required to complete Phase I, II and III studies with respect to a given product.

Upon the successful completion of clinical testing, a marketing application (i.e., NDA) is submitted to the FDA for approval. This application requires detailed data on the results of pre-clinical testing, clinical testing and the composition of the product; proposed labeling to be used with the drug; information on manufacturing methods; and samples of the product in some cases. Since the passage of the Prescription Drug User Fee Act (PDUFA), the FDA typically takes from six to eighteen months to review an NDA after it has been accepted for filing. Following its review of a marketing application, the FDA typically raises questions or requests additional information. The NDA approval process can, accordingly, be very lengthy. Further, there is no assurance that the FDA will ultimately approve an NDA. The FDA can also determine that a drug is approvable contingent on satisfactory review of additional information requested by the FDA. We cannot assure you that such requests by the FDA for additional information can be fulfilled in a timely manner, if at all. If the FDA approves the NDA, the new product may be marketed for the applications or

treatments that have been approved by the FDA. The claims with which a product can be marketed are also subject to review and approval by the Division of Drug Marketing, Advertising and Communications (DDMAC), the FDA s marketing surveillance department within the Center for Drugs. The FDA often clears a product for marketing with a modification, or restriction to the proposed label claims or requires that post-marketing surveillance, or Phase IV testing, to be conducted. The method and system of a drug s distribution can also be controlled by the FDA if approved under Subpart H.

Operating Functions

We have structured each of its operating functions to support its strategy. Following is a general explanation of the typical steps in our processes of product acquisition, development and marketing.

Product Acquisition

We actively search for product licensing opportunities. The continual acquisition of products for development and/or commercialization is a key element of our growth strategy. We attract product acquisition proposals through a network of customer and industry contacts, licensing brokers and a growing awareness of its activities by governmental, academic and industry sources. Since its inception, we have evaluated many product opportunities. To date, seventeen products have been acquired and, of these, three products were developed, marketed and subsequently divested (Busulfex, Sucraid, and Elliotts B Solution) and four products (Xyrem, Antizol, Cystadane and Antizol-Vet) have been developed and are currently being marketed by us. In addition, Xyrem is also currently under development for other indications.

We seek to acquire pharmaceutical products within CNS markets that, in our opinion, generally:

- Are of high medical value as defined by the customer (physician or patient) within a therapeutic area;
- Treat diseases that affect distinct patient populations;
- Are prescribed by physician specialists;
- Can be marketed with a focused, specialized sales team to health care specialists, health care institutions, and patients;
- Are likely to be eligible for reimbursement by third-party payors;
- Have, or are candidates for, patent protection, orphan drug designation or have other characteristics that enhance our competitive position;
- Treat diseases that have clinical endpoints (i.e., signs or symptoms) that are readily measured;
- Are conventional pharmaceutical products that are relatively straightforward in formulation and development, and do not involve the application of new technologies;
- Are in Phase II or Phase III clinical trials and have a relatively high likelihood of obtaining the approval of the FDA within three to five years of acquisition;
- Offer attractive potential financial returns with relatively low development costs;
- Complement our other products in order to leverage existing talent and resources.

In selecting additional products for potential inclusion in its portfolio, we generally focus on acquiring rights to medicines that serve niche or defined patient populations served by specialty physicians. Major drug companies are less likely to address these niche markets because they do not believe these markets will produce acceptable revenues and returns. This reluctance limits the number of potential sources of competition. In

addition, a product designed for smaller patient populations may be eligible for orphan drug designation. By obtaining orphan drug designation, we are granted exclusive marketing rights or status in the United States for seven years, subject to certain limitations, after an NDA for a product is approved, if we are the first to receive approval for the designated drug and indication.

We seek to acquire potential products that already have, or will not require, a substantial quantity of clinical data to demonstrate their relative efficacy and safety. We also search for product candidates that represent new delivery methods or dosage forms of previously approved or known compounds because we believe these types of products are more likely to be quickly approved by the FDA and accepted by the medical community. In addition, we attempt to develop medicines where clear clinical endpoints can demonstrate their effectiveness. Generally, we seek to acquire products that can be developed to the point of FDA approval within three to five years of their acquisition. Typically, we also focus our development efforts on one

indication and, when possible, one dosage form to minimize development costs. Potential additional indications or dosage forms may be evaluated, but only after the primary NDA is submitted and/or approved.

An additional element of our product development strategy is to acquire products that have or can have a degree of proprietary protection. Generally, this goal is accomplished by selecting products that are covered by patents, are eligible for orphan drug designation, or are the subject of an exclusive license from a sole supplier or a manufacturer with specialized or proprietary processes. The likely availability of adequate levels of reimbursement from third-party payors is also an important factor in product acquisition decisions.

Product Development

Pharmaceutical product development is one of the Company s principal activities. We have incurred in excess of $60 million in expenses for research and development activities through December 31, 2003. In addition, the Company estimates that it will need to incur at least an additional $14.7 million of expense in research and development activities over the next four quarters relating to the products it currently markets, including obtaining any potential additional Xyrem indications. Although we believe we have sufficient cash available for currently anticipated clinical trials, we may need additional capital to fund clinical trials related to products that we may acquire or develop in the future or for trials related to new indicators of existing products.

A major element of the Company s product development strategy is to use third-parties or contract research organizations (CROs) to assist in the conduct of safety and efficacy testing and clinical studies, to assist the Company in guiding products through the FDA review and approval process, and to manufacture and distribute any FDA approved products. The Company believes that maintaining a limited infrastructure will enable it to develop products efficiently and cost effectively.

The Company believes the use of third-parties to develop and manufacture its products has several advantages. This approach generally allows a greater pool of resources to be concentrated on a product than if these functions were performed by internal personnel who were required to support all of the Company s products. Although this approach will allow the Company to avoid the expense associated with developing a large internal infrastructure to support its product development efforts, it will result in the Company being dependent on the ability of outside parties to perform critical functions for the Company. Over time, the Company expects to build internal capabilities to replace certain development functions now contracted to outside parties.

This contract approach to product development requires project management by professionals with substantial industry experience. The Company believes it has in-house experts in areas of critical importance to all of its proposed products who can be consulted by the development teams. These areas include regulatory affairs, marketing and sales, quality assurance, manufacturing, clinical trials management, finance, information systems and general management.

The product development process is designed to identify problems associated with a proposed product s safety and effectiveness. The Company attempts to reduce the risk that a proposed product will not be accepted in the marketplace by conducting market research and defining commercial strategy with a product s development. A drug development portfolio cannot be completely insulated from potential clinical and marketing failures. It is likely that some proposed products selected for development by the Company will not produce the clinical or revenue results expected. To date, the Company has discontinued development activities with respect to eleven proposed products because either the products were deemed unapprovable or the estimated financial returns of these proposed products were unacceptable. In May and June 2003, the Company divested three products from its commercially marketed product portfolio resulting in a net gain of $30.3 million.

Manufacturing

The Company does not have and does not intend to establish any internal product testing, drug or chemical synthesis of bulk drug substance, and manufacturing capability for drug product. Manufacturers of the Company s products are subject to applicable GMP as required by FDA

regulations or other rules and regulations prescribed by foreign regulatory authorities. The Company is negotiating or has entered into bulk drug supply and drug product manufacturing agreements with third-parties for all of its FDA approved products and is dependent on such third parties for continued compliance with GMP and applicable foreign standards. The Company believes that qualified manufacturers will continue to be available in the future, at a reasonable cost to the Company, although there can be no assurance that this will be the case.

Due to FDA mandated dating requirements and the limited market size for the Company s approved products, the Company may be subject to complex manufacturing logistics, minimum order quantities that could result in excess inventory as determined under the Company s accounting policy, unsalable inventory as a result of product expiring prior to use, and competition with others for manufacturing services when needed or expected. The Company has a production-planning program to assess and manage the manufacturing logistics amongst the vendors supplying the required finished product components of bulk drug substance, drug product and packaging.

We generally use a single contract drug product manufacturer for each of our products. The Company is in the process of changing manufacturers of Cystadane which is the reason two manufacturers are listed for that product. These manufacturers have been approved by the FDA for the production of our approved products. Following is a listing of the Company s contract drug product manufacturers:

Contract Drug Product Manufacturer	Marketed and Proposed Products
An affiliate of Boehringer Ingelheim	Antizol, Antizol-Vet
Ropack, Inc.; ProClinical Inc.	Cystadane
DSM Pharmaceuticals, Inc.	Xyrem

In addition to the contract drug product manufacturers, we use single suppliers for the bulk drug substance for Antizol, Antizol-Vet and Xyrem. Ash Stevens, Inc. is the Company s sole supplier of bulk drug substance for the manufacture of Antizol and Antizol-Vet; while Lonza, Inc. is the Company s sole supplier of bulk drug substance for the manufacture of Xyrem.

The loss of either a bulk drug supplier or drug product manufacturer would require us to obtain regulatory clearance in the form of a pre-approval submission and incur validation and other costs associated with the transfer of the bulk drug or drug product manufacturing process. We believe that it could take as long as two years for the FDA to approve such a submission. Because our products are targeted to relatively small markets and our manufacturing production runs are small by industry standards, we have not incurred the added costs to certify and maintain secondary sources of supply for bulk drug substance or backup product manufacturers for some products. Should we lose either a bulk drug supplier or a drug product manufacturer, we could run out of salable product to meet market demands or investigational product for use in clinical trials, while we wait for the FDA approval of a new bulk drug supplier or drug product manufacturer.

We believe that the foregoing risks regarding the possible loss of a manufacturer or supplier could be mitigated in a number of ways. First, the Company s currently effective manufacturing and supply agreement provide for relatively long termination periods, ranging from one to two years, during which the manufacturer or supplier is required to continue to perform its obligations under its agreement with us. During this time period, the Company would actively search for an alternate manufacturing or supply source and it is management s current belief that, given the relatively long time period, an alternate source could be obtained during that period.

Second, during the termination period, we expect that we would increase our inventory levels in order to safeguard against delay in implementing a new manufacturing or supply relationship. Given the longer expiration periods for the Company s current products, the Company currently expects it would be able to sell increased inventory levels prior to the expiration dates of the increased inventory. Expiration periods for our products generally range from two to five years from the date of manufacture. Given the foregoing, we believe that there are alternate manufacturing and supply sources that would be available both on acceptable terms and on a timely basis for our products.

Despite our expectation that we would be able to take steps to mitigate the risk of loss of one or more manufacturing or supply relationships, we cannot assure you that the change of a bulk drug supplier or drug product manufacturer and the transfer of the processes to another third party would be approved by the FDA, and if approved, in a timely manner. Therefore, despite our efforts to mitigate risk, we may experience additional costs and delay while switching providers, which in turn could adversely affect sales revenue.

Marketing United States

As part of its marketing efforts, the Company identifies and defines appropriate therapeutic areas, identifies customer needs within each therapeutic area, identifies specific product acquisition candidates within each therapeutic area, works with the development team to insure clinical data are collected that supports the desired indication and marketing claims, and if FDA approval is obtained, designs and implements marketing plans for each of its approved products. Market research is conducted to analyze the potential of products prior to their acquisition. Once a product is acquired and is being developed, further market research is completed and, based on this analysis; the product s marketing plan is developed and appropriate pre-launch programs are initiated. Upon submission of the NDA to the FDA, the product management

responsibilities transition from the development team to the Company s commercialization staff. The development group continues to provide support where needed to enhance marketing and sales efforts. This group is responsible for all aspects of a product s marketing and sales, including product forecasting, positioning, price, promotion and physical distribution to successfully launch and commercialize the product. Senior sales and marketing employees lead a cross functional team of internal and external personnel to implement a product s marketing and commercialization plan. In addition, marketing and sales staff also supports the Company s international sales efforts through support of and interfacing with international partners.

Marketing Foreign

In general, the Company expects to out-license foreign marketing, sales and distribution rights after an NDA is submitted or approved in the United States. The Company contracts with foreign companies (usually pharmaceutical companies) to market and distribute its products. The Company considers Europe and Japan to be its most attractive foreign markets. The Company has entered into marketing, sales and distribution agreements for Antizol and Cystadane in Europe, Cystadane in Australia and New Zealand, Cystadane in Israel, Antizol and Cystadane in Canada.

In October 2003, the Company announced that it has licensed European sales and marketing rights for Xyrem to Celltech Pharmaceuticals, a division of Celltech Group plc. Under the terms of the agreement, Celltech will be responsible for the registration, marketing and sales of Xyrem in Europe. The licensing agreement includes the use of Xyrem in narcolepsy and provides Celltech with rights to negotiate for other potential future indications including fibromyalgia syndrome.

The Company s historical practice is to negotiate contracts with foreign distributors that generally provide for minimum order and sales performance. Minimum fees negotiated with foreign parties to date are not material and are not refundable, nor subject to future performance criteria. The foreign contracting party is responsible for obtaining

marketing approval for the Company s product to which the agreement relates and the Company is responsible for providing selected U.S regulatory information to the foreign party on request. The Company cannot unilaterally terminate these agreements without established evidence of default, but these agreements do expire over a defined period of time and the Company may seek other foreign parties to provide comparable services upon expiration if not satisfied with the performance of its partners. The principal benefit a foreign party receives from entering into these agreements with the Company and paying the minimum fees, if any, is a contracted price for acquisition of product from the Company because the Company is the sole supplier of its approved products on a worldwide basis.

Distribution

In the foreseeable future, the Company does not intend to develop internal physical distribution capabilities because the Company believes its relatively low-volume products can be more economically and efficiently distributed through third-party distribution organizations. Cystadane, principally delivered to patients through retail pharmacies, and Antizol, primarily used in a hospital setting, are distributed by an affiliate of Cardinal Health. This distribution system allows the sale of these products directly into hospitals or, if customers prefer, through their primary wholesaler. Antizol-Vet is a product used in veterinary clinics and is distributed by an affiliate of Cardinal Health to individual veterinary clinics and a network of veterinary wholesalers.

The Company has a contract with a central pharmacy, Express Scripts Specialty Distribution Services, Inc., to distribute Xyrem in the United States. Xyrem is classified as a Schedule III controlled substance and approved under Subpart H of the FDA s review and approval process, and distribution is strictly controlled. A specialty pharmacy is the only source through which Xyrem can be obtained. Distribution is governed by the FDA s Subpart H regulations and complies with the risk-management controls jointly developed by Orphan Medical, the Drug Enforcement Agency and law enforcement agencies. Every shipment of Xyrem is subject to stringent safeguards to ensure it reaches only individuals for whom it has been legitimately prescribed. The Company s agreement with the central pharmacy calls for fees to be paid based on the number of bottles shipped to patients and is for a term of three years, ending September 2005. This agreement may be terminated for cause or noncompliance with appropriate notice given according to the provisions of the agreement.

While we believe that there are other third parties that can provide these distribution services, we cannot assure you that our distribution agreements with these entities or other third parties would be available, or continue to be available to us on commercially acceptable terms. Nonetheless, we do not believe the loss of a distributor or the failure to renew agreements with our existing distributors would have a material adverse effect on our sales revenue.

Competition

Potential competitors in the United States are numerous and include pharmaceutical, chemical and biotechnology companies. The Company will experience competition in several specific areas, including, but not limited to, those described below.

Product Acquisition The Company will compete with other entities in acquiring product rights from other companies, universities, other research institutions, as well as from other potential licensors.

Product Development Resources The Company will compete for certain resources, such as the services of clinical investigators, contract manufacturers, advisors and other consultants. The Company will generally have little or no control over the allocation of such resources.

Orphan Drug Designation The Company is aware of another company that filed for and received orphan drug designation on a product similar to one of its products. Teva (formerly Biocraft) had been granted orphan drug designations for their sodium oxybate. Sodium oxybate is the equivalent of the Company s Xyrem product. In 1999, the Company entered into an agreement with Teva that, in effect, transfers Teva s development data to the Company. While the Company is not aware of others holding or seeking orphan drug designation for products that would compete with the Company s products for NDA approval, there can be no assurance that the Company s products will not have such competition from another formulation or drug of materially different composition from being approved, with or without orphan drug status, for the same indication.

Marketing And Sales Each of the Company s current products will face competition from other products or from other therapeutic alternatives. The Company s products may compete against products whose marketers have substantially greater resources, including large specialized sales forces, than the Company. The following is a description of competition that our products face.

Xyrem: for the cataplexy symptoms of narcolepsy, tricyclic and SSRI antidepressants are used although they are not approved for this use.

Xyrem: for excessive daytime sleepiness associated with narcolepsy, Provigil® / modafinil (Cephalon) is approved as a wakefulness-promoting drug. Stimulant drugs are also used for this symptom although not specifically approved for narcolepsy. Xyrem may not be directly competitive with these agents as its use in combination with modafinil or stimulants may be additive or, in fact, synergistic.

Antizol: prior to the introduction of Antizol, ethanol has been used for many years for the treatment of ethylene glycol and methanol poisonings. Although not approved for this use, it continues to be used in some hospitals.

Cystadane: no competitors.

Manufacturing The Company may also compete for limited manufacturing capacity or availability.

Government Regulation

General

Political, economic and regulatory influences are subjecting the health care industry in the United States to fundamental change. Several potential approaches are under consideration, including mandated basic health care benefits, controls on health care spending through limitations on the growth of private health insurance premiums and Medicare and Medicaid spending, price discounts from drug manufacturers, the creation of large purchasing groups and other significant changes to the health care delivery system. In addition, some states have adopted or are considering price controls and various health care reform proposals. The Company anticipates that Congress and state legislatures will

continue to review and assess alternative health care delivery systems and payment methods and that public debate of these issues will likely continue in the future. Because of uncertainties regarding the ultimate features of reform initiatives and their enactment and implementation, the Company cannot predict which, if any, of such reform proposals will be adopted, when they may be adopted or what impact they may have on the Company or its prospects.

Reimbursement

Employers, through payments to their employee benefit plans, bear a significant share of the health care costs of their employees. These plans are typically administered by insurance companies, health maintenance organizations, preferred provider organizations and other third-party payors. Health care services and products, including pharmaceutical products, are also paid for by government agencies such as Medicaid. Employers and the payors involved in providing or administering health care benefits are increasingly turning to managed care systems to control health care costs. Under these systems, the administrative requirements and standards of care are established by the health care purchasers and providers and the benefit level depends on the negotiated price. Managed care systems usually limit treatment options to approved therapeutic regimens and formularies, or lists of approved drugs and medical products.

Inclusion or listing on the formularies of managed care groups is important to the commercial success of most prescription medicines. A pharmaceutical must be included on a third-party payor s formulary or must be deemed medically necessary to be eligible for reimbursement by

that payor. In deciding whether a drug is to be included on a formulary, payors will generally consider its therapeutic value and cost in comparison to other available treatments. The Company believes that the proprietary nature and medical usefulness of its products should assist it in its efforts to have its products approved for reimbursement. No assurance can be given, however, that the Company s products will be approved for reimbursement by third-party payors at acceptable levels, or at all.

Product Approvals

The Company s products require FDA approval in the United States and comparable approvals in foreign markets before they can be marketed. The development of investigational products and the marketing and supply of approved products require continuing compliance with FDA regulations on the part of the Company as well as its manufacturers and distributors.

Scheduled Products

Products that are designated controlled substances also require compliance with regulations administered by the U.S. Drug Enforcement Agency (DEA), and similar regulations administered by state regulatory agencies. On February 28, 2000 President Clinton signed PL 106-172, a public law that makes gamma hydroxybutyrate (GHB) a Schedule I substance. Schedule I is the designation by which illegal and non-approved drugs are controlled. The bill further delineates GHB products being studied under Food and Drug Administration (FDA) approved protocols or approved for commercial sale by the FDA as Schedule III substances.

Each state has the ability to schedule products more strictly or equivalent to the federally designated schedule. Most states have adopted, either administratively or legislatively, the bifurcated I/III schedule as described above. The Company continues its efforts to ensure consistency of scheduling across all states.

Manufacturing Regulation

All facilities and manufacturing processes used to manufacture products for clinical use or sale in the United States must be operated in conformity with Good Manufacturing Practices (GMP). These represent the FDA requirements governing the production of pharmaceutical products. FDA approval is required before a contract manufacturer can implement most changes in manufacturing procedures for any of the Company s approved products. The Company has established a quality assurance program to monitor third-party manufacturers of its products to promote compliance by such manufacturers with domestic and foreign regulations (based on country of use). In addition, FDA approval is required to change contract manufacturers of approved products. Obtaining the FDA s approval for a change in manufacturing procedures or change in manufacturers could cause production delays and loss of revenue.

Foreign Regulation

Products marketed outside of the United States are subject to regulatory approval requirements similar to those required in the United States, although the requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary widely from country to country. No action can be taken to market any product in a country until an

appropriate application has been approved by the regulatory authorities in that country. The current approval process varies from country to country, and the time spent in gaining approval varies from that required for FDA approval. In certain European countries, the price of a product must also be approved. The pricing review period often begins after market approval is granted. The Company intends to use foreign partners to apply for foreign marketing approvals.

Insurance

Providing health care products entails an inherent risk of liability. In recent years, participants in the health care industry have been subject to a large number of lawsuits alleging malpractice, product liability or related legal theories, many of which involve large claims and significant defense costs. The Company may from time to time be subject to such suits as a result of the nature of its business. The Company carries product liability insurance coverage in the aggregate amount of $30 million. The Company also carries a $10 million general business insurance policy. The Company does not carry any insurance to cover the financial risks associated with a potential FDA mandated recall of an approved product. There can be no assurance, however, that such insurance policies will be sufficient to fully indemnify the Company against any asserted claims or that such insurance will continue to be available.

Human Resources

The Company has 79 full-time and six part-time employees. The Company believes that its relationship with its employees is good. None of the Company s employees is represented by a labor union.

Trade Secrets

The Company also relies on trade secrets and proprietary knowledge to protect certain of its technologies and potential products. The Company

requires employees, consultants and advisors to enter into confidentiality agreements that prohibit disclosure to any third-party or use of such secrets and knowledge for commercial purposes. Company employees also agree to disclose and assign to the Company all methods, improvements, modifications, developments, discoveries and inventions conceived during their employment that relate to the Company s business. We cannot assure, however, that these agreements will be observed to prevent disclosure or that they will provide adequate protection for the Company s confidential information and inventions.

Grants

Previously the Company used both FDA Office of Orphan Drug Products (orphan drug grants) and the Small Business Administration (SBIR grants) to assist in funding product development programs. The Company collected approximately $1.6 million in grant proceeds to product development expenses for certain products. The Company currently has no active grants. The Company does not intend to use grants as a primary source of funding for product development activities in the future.

Discontinued Development Products

Through December 31, 2003, the Company discontinued development activities on a total of eleven proposed products. There can be no assurance that the Company s license rights and/or any clinical data related to a discontinued product have any value to a third party and, if such rights or clinical data have value, there can be no assurance that the Company can come to terms with a third party for the sale of such rights or clinical data.

ITEM 2. PROPERTIES

The Company currently occupies approximately 15,000 square feet of leased office space at a monthly rent of approximately $25,000, including operating expenses. This lease expires on October 31, 2004.

ITEM 3. LEGAL PROCEEDINGS

None.

ITEM 4. SUBMISSION OF MATTERS TO VOTE OF SECURITY HOLDERS

None.

ITEM 4A. EXECUTIVE OFFICERS OF THE REGISTRANT

The executive officers of the Company and their ages as of March 1, 2004.

Name	Age	Title
John Howell Bullion	52	Chief Executive Officer and Chairman of the Board
William Houghton, M.D	61	Executive Vice President and Chief Scientific and Medical Officer
Mark Perrin	47	Executive Vice President and Chief Commercial Officer
Timothy G. McGrath	39	Vice President and Chief Financial Officer
Dayton T. Reardan, Ph.D	48	Vice President of Regulatory Affairs
Pamela J. Stahl	38	Vice President of Commercial Operations

Executive officers of the Company serve at the discretion of the Board of Directors with no fixed term. There are no family relationships between or among any of the executive officers or directors of the Company.

Mr. Bullion has been Chief Executive Officer of the Company since June 24, 1994 and Chairman of the Board of Directors since December 30, 1998. Mr. Bullion is a co-founder of Chronimed Inc., the company from which Orphan Medical, Inc. was spun-off in 1994. Prior to joining Orphan Medical, Mr. Bullion served as President of Bluestem Partners, an investment and consulting company; Dahl & Associates, a soil and ground water remediation company; and Concurrent Knowledge Systems, Inc., a software development company. Mr. Bullion also served as partner and Vice President with First Bank System Venture Capital Company for seven years.

Dr. Houghton has been the Company s Executive Vice President, Chief Scientific and Chief Medical Officer since May 2002. Prior to that Dr. Houghton served as the Company s Chief Operating Officer since joining the Company in August 1998. Dr. Houghton s most recent position was Chief Scientific Officer and Vice President of Clinical and Regulatory Affairs at Iotek, Inc. from April 1995 to August 1998. At Iotek, Dr. Houghton was responsible for all research activities, regulatory and clinical research, and served as the medical liaison with Iotek s Medical advisory Board. From February 1984 to March 1995, Dr. Houghton also held a variety of management positions with Abbott Australasia and Abbott Laboratories in the United States.

Mr. Perrin has been the Company s Executive Vice President and Chief Commercial Officer since May 2002. From 1995 to 2001, Mr. Perrin was Executive Vice President, Commercial Operations at COR Therapeutics responsible for all aspects of sales marketing and manufacturing. Prior to that Mr. Perrin held sales, marketing and commercial operations management positions at Burroughs Wellcome Company from 1992 to 1995 and Lederle Laboratories from 1979 to 1992.

Mr. McGrath has been the Company s Vice President and Chief Financial Officer since October 1999. Previously, Mr. McGrath had worked as consultant providing financial services to growing companies in the Minneapolis and Saint Paul area. From 1994 to 1998, he was Vice President of Finance at E. W. Blanch Holdings, Inc., a publicly traded provider of integrated risk management and distribution services. Prior to joining E.W. Blanch Holdings, Mr. McGrath was with Ernst & Young LLP in Minneapolis.

Dr. Reardan has been the Company s Vice President of Regulatory Affairs since May 1995 and had been the Director of Regulatory Affairs since joining the Company in 1994. From 1993 to 1994, he was Director of Development at CV Therapeutics. From 1984 to 1993, he held a variety of scientific, development and management positions at Xoma Corporation.

Ms. Stahl has been the Company s Vice President of Commercial Operations since October 2001. Most recently, Ms. Stahl was Vice President of Sales at American TeleCare, Inc. an emerging telemedicine company where she had responsibility for sales, marketing, and distribution. Previously, she held several management positions in sales, managed care, and sales training at AstraZeneca L.P. During her tenure at AstraZeneca L.P., Ms. Stahl was a member

of the team that launched Prilosec®, the leading treatment of acid related disorders. She also worked at Merck & Co., Inc. in sales and training positions supporting Zocor® and Pepcid®. In her position at Orphan Medical, Ms. Stahl manages the Company s U.S. and international sales, distribution, and patient affairs functions.

PART II

ITEM 5. MARKET FOR REGISTRANT S COMMON STOCK AND RELATED STOCKHOLDER MATTERS

The Company s Common Stock trades on the National Market tier of The Nasdaq Stock Market under the Symbol: ORPH. The following table sets forth the quarterly high and low sales prices for the Company s Common Stock for the years ended December 31, 2003 and December 31, 2002.

	High	Low
Year Ended December 31, 2003		
January 1 through March 31	$10.500	$ 7.670
April 1, through June 30	$10.470	$ 5.450
July 1 through September 30	$13.140	$ 8.580
October 1 through December 31	$11.590	$ 8.300
Year Ended December 31, 2002		
January 1 through March 31	$15.000	$10.310
April 1, through June 30	$13.060	$ 9.000
July 1 through September 30	$12.200	$ 5.950
October 1 through December 31	$11.350	$ 6.960

Equity Compensation Plan Information As Of December 31, 2003

The following table summarizes information as of December 31, 2003 relating to equity compensation plans of the Company pursuant to which grants of options, restricted stock, or other rights to acquire shares may be granted from time to time. As of December 31, 2003, the Company had no equity compensation plans that were not approved by security holders.

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (1)	Weighted-average exercise price of outstanding options, warrants and rights (2)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (1)) (3)
Equity compensation plans approved by security holders	2,131,796	$8.14	833,382

As of March 1, 2004, the Company s Common Stock was held by approximately 250 shareholders of record and the Company estimates that there were approximately 3,000 beneficial owners of its Common Stock on such date.

The Company has never declared or paid any dividends on its Common Stock and does not anticipate paying dividends on its Common Stock in the foreseeable future. The Company currently intends to retain future earnings, if any, for use in the Company s business. The payment of any future dividends on its Common Stock will be determined by the Board of Directors in light of conditions then existing, including the Company s earnings, financial condition and requirements, restrictions in financing agreements, business conditions and other factors.

ITEM 6. SELECTED FINANCIAL DATA

The following selected financial data of the Company as of December 31, 2003 and 2002 and for the three years ended December 31, 2003, 2002 and 2001, are derived from, and are qualified by reference to, the financial statements of the Company audited by Ernst & Young LLP, independent registered public accounting firm, included elsewhere in this Form 10-K. The selected financial data as of December 31, 2001, 2000 and 1999 and for the years ending December 31, 2000 and 1999 are derived from financial statements, which are not included herein. The information set forth below should be read in conjunction with Management s Discussion and Analysis of Financial Condition and Results of Operations, the Financial Statements and Notes thereto and other financial information included elsewhere in this Form 10-K.

FINANCIAL POSITION

	December 31,				
	2003	**2002**	**2001**	**2000**	**1999**
Cash, cash equivalents and available-for-sale securities	$ 23,285	$ 6,921	$ 19,011	$ 11,417	$ 4,033
Working capital	19,804	6,672	18,011	10,266	3,161
Total assets	29,322	13,139	22,346	15,297	6,241
Long term debt	62	78			
Deferred revenue	2,500		431	501	249
Accumulated deficit	(56,325)	(66,388)	(54,073)	(47,179)	(40,244)
Total shareholders equity	20,496	7,750	18,413	10,743	3,561

FINANCIAL RESULTS

	For the Year Ended December 31, 2003	**For the Year Ended December 31, 2002**	**For the Year Ended December 31, 2001**	**For the Year Ended December 31, 2000**	**For the Year Ended December 31, 1999**
Revenues	$ 15,526	$ 16,130	$ 11,274	$ 11,185	$ 6,457
Cost of sales	2,415	2,191	1,592	1,532	803
Gross profit	13,111	13,939	9,682	9,653	5,654
Operating expenses					
Product development	10,805	8,713	7,046	8,380	6,147
Sales and marketing	16,361	12,776	5,730	5,259	3,198
General and administrative	4,773	4,106	3,224	2,894	1,818
Loss from operations	(18,828)	(11,656)	(6,318)	(6,880)	(5,509)
Other income, net	30,334	255	321	793	288
Net income (loss) before taxes	11,506	(11,401)	(5,997)	(6,087)	(5,221)
Income tax expense	509				
Net income (loss)	10,997	(11,401)	(5,997)	(6,087)	(5,221)
Less: Preferred stock Dividend	945	922	903	872	683
Net income (loss) applicable to					

common shareholders	$ 10,052	$ (12,323)	$ (6,900)	$ (6,959)	$ (5,904)
Earnings (loss) per Common share					
Basic	$ 0.95	$ (1.19)	$ (0.80)	$ (0.86)	$ (0.90)
Diluted	$ 0.85	$ (1.19)	$ (0.80)	$ (0.86)	$ (0.90)
Weighted average shares outstanding					
Basic	10,613	10,350	8,597	8,135	6,588
Diluted	12,967	10,350	8,597	8,135	6,588

At December 31, 2003, the Company reclassified certain operating expenses to align the financial statements with the Company s current management of its operations. These expenses were reclassified from General and Administrative expenses to Product Development and Sales and Marketing expenses.

In June 2003, the Company announced the disposition of Busulfex (busulfan) Injection to ESP Pharma, Inc. for $29.3 million plus the book value of inventory, approximately $0.2 million. The Company announced the sale of the product Sucraid (sacrosidase) oral solution to a specialty pharmaceutical company in May 2003 for $1.5 million. The Company also divested a third product, Elliotts B Solution to the same specialty company for proceeds that were not material. Proceeds from these dispositions will be used for further development and marketing of Xyrem and for the creation of a stronger presence in the sleep and central nervous system (CNS) markets. The Company recorded a gain of $30.3 million related to these transactions in the second quarter of 2003.

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

General

Orphan Medical, Inc. (the Company or we) acquires, develops, and markets products of high medical value intended to treat sleep disorders, pain and other central nervous system (CNS) disorders that are addressed by physician specialists. A drug has high medical value if it offers a major improvement in the safety or efficacy of patient treatment and has no substantially equivalent substitute. The Company has had six pharmaceutical products approved for marketing by the United States Food and Drug Administration (FDA). Three of these products have been divested, and the Company is now focusing its resources on Xyrem® (sodium oxybate) oral solution, a medication approved for cataplexy, a significiant and debilitating symptom of narcolepsy. The Company is conducting clinical trials to assess Xyrem in treating excessive daytime sleepiness and fragmented nighttime sleep, the other prominent symptoms of narcolepsy. A new compound, Butamben (butyl-p-aminobenzoate) suspension for injection, is being evaluated for development as a treatment of pain. The Company is seeking other approved or development-stage products in the specialty CNS areas it serves. The Company also markets Antizol® (fomepizole) Injection, as a treatment for suspected or confirmed ethylene glycol or methanol poisonings and Cystadane® (betaine anhydrous for oral solution) for the treatment of homocystinuria, an inherited metabolic disease.

Since its inception, the Company has experienced recurring losses from operations and has generated an accumulated deficit through December 31, 2003 of $56.3 million. The accumulated deficit declined in 2003 as a result of the gain on the divestment of certain products. In addition, the Company expects to incur additional losses from operations in 2004.

Recent Developments

In October 2003, the Company announced that it had licensed European sales and marketing rights for Xyrem to Celltech Pharmaceuticals, a division of Celltech Group plc (Celltech). Under the terms of the agreement, Celltech will be responsible for the registration, sales and marketing of Xyrem in Europe. Celltech has made an upfront payment of $2.5 million to Orphan Medical and will make further payments of up to $6 million tied to product development milestones and up to $7 million tied to sales-related milestones. Celltech will also pay Orphan Medical a royalty on sales of the product which is expected to begin no earlier than 2005. The licensing agreement includes the use of Xyrem in narcolepsy and provides Celltech with rights to negotiate in regard to other potential future indications including fibromyalgia syndrome. The term of this agreement is for 10 years from the date of approval in Europe with automatic extension until Celltech provides 12 months notice to Orphan Medical. The agreement may be terminated under certain conditions including material breach of contract provisions prior to the initial ten year term.

On June 10, 2003, the Company announced the disposition of Busulfex to ESP Pharma, Inc. for $29.3 million plus the book value of inventory, approximately $0.2 million. The Company announced the sale of the product Sucraid to a specialty pharmaceutical company on May 6, 2003 for $1.5 million. The Company also divested a third product, Elliotts B Solution to the same specialty company for proceeds that were not material. Proceeds from these dispositions will be used for further development and marketing of Xyrem and for the creation of a stronger presence in the sleep and central nervous system (CNS) markets.

On March 28, 2003, the Company cancelled its existing line of credit facility and entered into a new facility with a commercial bank. The new line of credit facility, which has a term of one-year, includes a borrowing base equal to 75% of eligible accounts receivable up to a maximum amount of $2.5 million. Certain other assets have also been pledged as collateral for this facility. The interest rate is equal to two points over the bank s prime rate. The Company will be subject to certain other requirements during the term of the facility, including minimum quarterly net equity amounts.

Critical Accounting Policies

Revenue Recognition

Sales for all products, except Xyrem, are recognized at the time a product is shipped to the Company s customers and are recorded net of reserves for discounts for prompt payment. Sales of Xyrem are recognized at the time product is shipped from the specialty pharmacy to the patient and are recorded net of discounts for prompt payment. Except for Xyrem, the Company is obligated to accept, for exchange only, from all domestic customers products that have reached their expiration date, which range from three to five years depending on the product. The Company is not obligated to accept exchange of outdated product from its international distribution partners. The Company establishes a reserve for the estimated cost of the exchanges. Management bases these reserves on historical experience and these estimates are subject to change.

Deferred revenue represents the initial payment received by the Company per the terms of the Company s license agreement with Celltech. Upon expiration of refund conditions, this fee will be recognized ratably over the expected regulatory approval period. Future milestone payments are expected to be recognized as earned based on the achievement of the milestone as indicated in the license agreement. See Note 5 to the financial statements for additional details regarding the Celltech transaction.

Accounts Receivable Allowance
The Company determines an allowance amount based upon an analysis of the collectibility of specific accounts and the aging of the accounts receivable. There is a concentration of sales to larger medical wholesalers and distributors. The Company performs periodic credit evaluations of its customers financial conditions. Domestic receivables are due within 30 days of the invoice date. International receivables are generally due within 60 to 90 days of invoice date. Credit losses relating to customers have not been material since the Company s inception.

Inventories
Inventories are valued at the lower of cost or market determined using the first-in, first-out (FIFO) method. The Company s policy is to establish an excess and obsolete reserve for its products in excess of the expected demand for such products. Inventory used in clinical trials is expensed at the time of production and included in the reserve until used.

Income Taxes
As part of the process of preparing its financial statements, the Company is required to estimate its income taxes in each of the jurisdictions in which it operates. This process involves estimating its actual current tax exposure, together with assessing temporary differences resulting from differing treatment of items for tax and accounting purposes. These differences result in deferred tax assets and liabilities.

The Company records a valuation allowance to reduce the carrying value of its net deferred tax asset to the amount that is more likely than not to be realized. For the year ended December 31, 2003, the Company recorded a $27.3 million valuation allowance related to its net deferred tax assets of $27.3 million. In the event the Company were to determine that it would be able to realize its deferred tax assets in the future, an adjustment to the deferred tax asset would increase net income in the period such determination is made. On a quarterly basis, the Company evaluates the realizability of its deferred tax assets and assesses the requirement for a valuation allowance.

Results of Operations

At December 31, 2003, we reclassified certain operating expenses to align the financial statements with our current management of its operations. These expenses were reclassified from General and Administrative expenses to Development and Sales and Marketing expenses.

Twelve Months Ended December 31, 2003 Vs. Twelve Months Ended December 31, 2002
In June 2003, we announced the disposition of Busulfex to ESP Pharma, Inc. for $29.3 million plus the book value of inventory, approximately $0.2 million. We announced the sale of the product Sucraid to a specialty pharmaceutical company on May 6, 2003 for $1.5 million. We also divested a third product, Elliotts B Solution to the same specialty company for proceeds that were not material. Proceeds from these dispositions will be used for further development and marketing of Xyrem and for the creation of a stronger presence in the sleep and central nervous system (CNS) markets. Total gain from the divestment of these products of $30.3 million is recorded as Gain on Divestment of Products.

Product Revenue Summary
The following is a summary of product revenue for the year ended December 31, 2003 compared to product revenue for the year ended December 31, 2002:

	Year ended December 31,		Variance	
	2003	2002	$	%
Antizol	$ 6,622	$ 6,103	$ 519	9%
Antizol-Vet	274	288	(14)	(5%)
Cystadane	1,186	994	192	19%
Xyrem	3,931	250	3,681	1472%
Busulfex(1)	3,321	7,748	(4,427)	(57%)
Elliotts B(1)	15	35	(20)	(57%)
Sucraid(1)	177	712	(535)	(75%)

	Year ended December 31,		Variance	
Total	$ 15,526	$ 16,130	$ (604)	(4%)

(1) - These products were divested during the second quarter of 2003.

Revenue decreased $0.6 million or 4% to $15.5 million for the year ended December 31, 2003 compared to $16.1 million the prior year. The decrease is the result of the product divestments completed in June 2003, offset by increases in Xyrem, Antizol and Cystadane revenues. The divested products contributed $3.5 million of revenue through the divestment date in 2003 compared to $8.5 million of revenue in fiscal 2002. Revenue from Xyrem was $3.9 million for the year ended December 31, 2003 compared to $0.3 million in fiscal 2002. This increase is the result of increased prescription volume for the product. The product was commercially launched in early October 2002. Antizol revenue increased $0.5 million or 9% as hospital stocking of the product rose slightly, along with an increase in the number of uses resulting from poisonings during the year. Cystadane revenue increased $0.2 million or 19% as a result of increased in the number of prescriptions during the year. The Company expects total revenue in fiscal 2004 to be in the $18.0-- $20.0 million range with Xyrem contributing $12.0-- $14.0 million.

Cost of sales increased $0.2 million or 10% to $2.4 million for the twelve months ended December 31, 2003 from $2.2 million for the twelve months ended December 31, 2002. The increase is primarily attributable to the change in product sales mix in 2003 as a result of the product divestments discussed earlier. The gross margin for 2003 was 84% compared to 86% the prior year. The margins on all products decreased slightly in 2003 as a result of increases in the costs of product liability insurance, a component of cost of sales. The products that were divested during the year had a lower combined margin, 81% than the combined margin on the remaining products, 86%. Cost of sales as a percentage of revenues will fluctuate from quarter to quarter and from year to year depending on, among other factors, demand for the Company s products, new product introductions and the mix of approved products shipped. The Company expects its gross margins for Xyrem as well as its other products to be in the 85% range in 2004.

Product development expense increased $2.1 million or 24% to $10.8 million for the year ended December 31, 2003 compared to $8.7 million for the prior year. This increase is attributable to increased clinical trial activity in 2003 compared to the prior year. At December 31, 2003, we had two Phase III(b) trials underway to evaluate Xyrem as a treatment for excessive daytime sleepiness associated with narcolepsy. We had only one Phase III(b) trial underway in

2002. We expect product development expense in 2004 to increase from 2003. This increase will be attributable to the completion of the Phase III(b) trials, the initiation of a clinical trial evaluating Xyrem as a treatment for fibromyalgia, the ongoing Xyrem extended release formulation activities and the continued evaluation of Butamben as a treatment for chronic malignant pain.

Sales and marketing expense increased $3.6 million or 28% to $16.4 million from the $12.8 expense recorded in 2002. The primary reason for the increase is a full-year of expense associated with the commercialization of Xyrem. These costs included $7.4 million for the sales force for Xyrem, hired late in the third quarter of 2002, and the sales administration functions compared to $1.8 million the prior year; $5.1 million of expenses for marketing programs for Xyrem compared to $4.2 million in 2002; and other smaller increases. These increases were offset by certain expense savings associated with the divestment of products in 2003, $2.5 million. Sales and marketing expense include the costs of the field sales force, marketing programs and marketing and sales administration costs. The Company expects sales and marketing expense to decline slightly in 2004 as a result of the elimination of expenses associated with the products that were divested in 2003.

General and administrative expense increased $0.7 million or 16% to $4.8 million for the year ended December 31, 2003 compared to $4.1 million the prior year. This increase is the result of increased staffing and other infrastructure expenses to support the Company s growth. The Company expects general and administrative expenses in 2004 to be consistent with or slightly less than expense levels in 2003.

Interest income declined from the prior year as the rate of investment return on the Company s excess cash declined from 2002.

We recorded minimum interest expense associated with its line of credit facility, its capital lease and the amortization of warrants issued in connection with the line of credit facility entered into in March 2003. The amortization of warrants is over the term of the credit facility or one year.

We have a history of pre-tax losses and had not generated taxable income since inception until 2003. While the Company had pre-tax income in 2003, the Company utilized a portion of its net operating loss carryforward and therefore, only recorded income tax expense for the alternative minimum taxes that were owed.

As of December 31, 2003, we had $35.9 million of net operating loss carryforwards available to offset future taxable income which begin to expire in 2010. In addition, under the Tax Reform Act of 1986, the amounts of and benefits from net operating loss carryforwards may be impaired or limited in certain circumstances, including significant changes in ownership interests. Future use of the Company s net operating loss carryforwards may be restricted due to changes in ownership or from future tax legislation.

The Company has established a valuation allowance against the entire amount of its deferred tax asset because it has not been able to conclude that it is more likely than not that it will be able to realize the deferred tax asset, due primarily to its history of operating losses.

Preferred stock dividends relate to the Senior Convertible Preferred Stock that was issued on July 23, 1998 and Series B Convertible Preferred Stock issued on August 2, 1999. Both have dividend rates of 7.5%. Preferred stock dividends were $0.9 million for the twelve months ended December 31, 2003 and 2002. Preferred stock dividends, which commenced on February 1, 1999, are payable in arrears on August 1 and February 1 of each year. Prior to February 2001, the Company satisfied its dividend payment obligation by issuing additional preferred stock, as permitted by the terms of the Senior Convertible Stock. Subsequent to February 2001, the Company intends to continue to satisfy its future dividend payment obligations by the issuance of unregistered common shares of stock for the Senior Convertible Preferred Stock and additional preferred stock for the Series B Convertible Preferred Stock, which will cause preferred stock dividends to increase in subsequent quarters.

Net income applicable to common shareholders was $10.1 million for the twelve months ended December 31, 2003 compared to a net loss of $12.3 million for the twelve months ended December 31, 2002. Basic and diluted income per share for the year ended December 31, 2003 were $0.95 and $0.85. Basic and diluted loss per common share for the year ended December 31, 2002 was $1.19. The loss for 2003 excluding the gain on the divested products was $19.7 million and a net loss per share of $1.86.

Twelve Months Ended December 31, 2002 Vs. Twelve Months Ended December 31, 2001

Product Revenue Summary

The following is a summary of product revenue for the year ended December 31, 2002 compared to product revenue for the year ended December 31, 2001:

	Year ended December 31,		Variance	
	2002	2001	$	%
Antizol	$ 6,103	$ 4,543	$ 1,560	34%
Antizol Vet	288	268	20	7%
Cystadane	994	727	267	37%
Xyrem	250		250	NM
Busulfex (1)	7,748	5,073	2,675	53%
Elliotts B (1)	35	43	(8)	(19%)
Sucraid (1)	712	620	92	15%
Total	$ 16,130	$ 11,274	$ 4,856	43%

Revenues increased to $16.1 million for the twelve months ended December 31, 2002 from $11.3 million for the twelve months ended December 31, 2001, an increase of $4.8 million or 43%. Sales of both Antizol and Busulfex exceeded revenue expectations in 2002. Antizol performed very well throughout 2002. Sales of the antidote experienced 34%

growth as compared to the prior year and Antizol is being stocked in over one-third of all hospitals with emergency departments. Antizol is established as the standard of care for confirmed or suspected ethylene glycol and methanol poisonings. Use of Busulfex in preparative regimens for bone marrow transplantation also continued to realize significant growth in the United States, Canada and other countries. Busulfex continued to advance into new research areas in place of oral busulfan or total body irradiation, and achieved an approximate 55 percent market share of the transplants that include a busulfan-based regimen. The sales of Cystadane, Sucraid Antizol-Vet and Elliotts B met the Company s expectations in 2002.

Cost of sales increased to $2.2 million for the twelve months ended December 31, 2002 from $1.6 million for the twelve months ended December 31, 2001, an increase of $0.6 million or 38%. The increase is primarily attributable to the increase in sales in 2002. The gross margins for both 2002 and 2001 were 86%.

Product development expense increased to $8.7 million for the twelve months ended December 31, 2002 from $7.0 million for the twelve months ended December 31, 2001, an increase of $1.7 million or 24%. The increase is the result of increased activity in ongoing trials for Xyrem and other development activities related to Xyrem and other products. The two Phase III(b) trials for Xyrem, now underway, will increase research and development spending in subsequent quarters, as will additional trials and data updates requested by the FDA.

Sales and marketing expense increased to $12.8 million for the twelve months ended December 31, 2002 from $5.7 million for the twelve months ended December 31, 2001, an increase of $7.1 million or 125%. This increase is largely attributable to activities for Xyrem, including the development of marketing materials and the ongoing activities associated with initial introduction of a new product ($3.1 million), the recruitment and training of a dedicated specialty sales force ($1.8 million) and the implementation of the specialty distribution system ($0.6 million). The Company had an increase of $1.4 million of costs associated with the marketing and selling of its Busulfex and Antizol product lines.

General and administrative expense increased to $4.1 million for the twelve months ended December 31, 2002 from $3.2 million for the twelve months ended December 31, 2001, an increase of $0.9 million or 28%. The increase in general and administrative expenses is related to building infrastructure for the launch and subsequent support of Xyrem.

Other income consists of interest income from investment activities net of interest expense. Other income was $0.3 million for the twelve months ended December 31, 2002 and 2001. Even though the equity transaction completed in December 2001 increased the cash available for investment in 2002, the lower interest rates and the cash used to fund development and working capital activities of the Company resulted in no increase in interest income for 2002 over 2001. Other income is expected to decrease in 2003 as a result of cash used to fund development and working capital activities of the Company.

Preferred stock dividends relate to the Senior Convertible Preferred Stock that was issued on July 23, 1998 and Series B Convertible Preferred Stock issued on August 2, 1999. Both have dividend rates of 7.5%. Preferred stock dividends were $0.9 million for the twelve months ended December 31, 2002 and 2001. Preferred stock dividends, which commenced on February 1, 1999, are payable in arrears on August 1 and February 1 of each year. Prior to February 2001, the Company satisfied its dividend payment obligation by issuing additional preferred stock, as permitted by the terms of the Senior Convertible Stock. Subsequent to February 2001, the Company intends to continue to satisfy its future dividend payment obligations by the issuance of unregistered common shares of stock for the Senior Convertible Preferred Stock and additional preferred stock for the Series B Convertible Preferred Stock, which will cause preferred stock dividends to increase in subsequent quarters.

Net loss applicable to common shareholders was $12.3 million for the twelve months ended December 31, 2002 compared to a net loss of $6.9 million for the twelve months ended December 31, 2001. Basic and diluted loss per common share for these respective periods were $1.19 and $0.80.

Liquidity and Capital Resources

Since July 2, 1994, the effective date the Company was spun-off from Chronimed Inc., it has financed its operations principally from net proceeds from several public and private financings, interest income and product sales. The various public and private placement transactions since inception resulted in aggregate net proceeds, after commissions

and expenses, of $60.5 million. In addition the Company raised approximately $30.9 million net proceeds from the divestment of three products in June 2003.

Net working capital (current assets less current liabilities) increased to $19.8 million at December 31, 2003 from $6.7 million at December 31, 2002. Cash and cash equivalents increased to $23.3 million at December 31, 2003 from $6.9 million at December 31, 2002. The Company invests excess cash in short-term, interest-bearing, investment grade securities.

The primary sources of capital for the year ended December 31, 2003 were from product revenues and gross proceeds of $30.9 million from the divestment of three of its products in June 2003. These divestments were completed to focus the Company s resources on Xyrem in the treatment of certain symptoms of narcolepsy and the conduct of certain clinical trials assessing the effectiveness of Xyrem in treating additional symptoms of narcolepsy.

In October 2003, the Company announced that it had licensed European sales and marketing rights for Xyrem (sodium oxybate) oral solution to Celltech Pharmaceuticals, a division of Celltech Group plc. Under the terms of the agreement, Celltech will be responsible for the registration, sales and marketing of Xyrem in Europe. Celltech has made an initial payment of $2.5 million to Orphan Medical and will make further payments of up to $6 million tied to product development milestones and up to $7 million tied to sales-related milestones. Celltech will also pay Orphan Medical a royalty on sales of the product which is expected to begin no earlier than 2005. The ten-year licensing agreement includes the use of Xyrom in narcolepsy and provides Celltech with rights to negotiate in regard to other potential future indications including fibromyalgia syndrome. The term of this agreement is for 10 years from the date of approval in Europe with automatic extension until Celltech provides 12 month notice to Orphan Medical. The agreement may be terminated under certain conditions including material breach of contract provisions prior to the ten year initial term.

The Company used more capital than its operations generated in 2003. The Company expects to incur a loss from operations resulting in 2004 and 2005, which will decrease capital. The Company continues to invest its capital in product development activities that may provide opportunities to enhance the commercial opportunities for Xyrem. The Company has committed $14.7 million to future product development activities. In addition, the Company also continues to use capital to develop and enhance the commercial programs for Xyrem. The Company expects that these efforts may result in increased Xyrem revenues. In the longer term, the Company expects that its current cash balances, cash flow from product revenues and any milestone payments received in accordance with the terms of the Celltech agreement will be sufficient to fund operations well into 2005. The Company may consider additional sources of capital should it decide to expand its product development programs or acquire additional products.

On April 14, 2004, the Company filed a shelf registration statement with the Securities and Exchange Commission (SEC) for the registration of 4,000,000 shares of common stock. Although we believe we have sufficient cash available for currently anticipted clinical trials, proceeds might be used for trials related to products that we may acquire or develop in the future or for trials related to new inducations of existing products.

The Company entered into a line of credit facility with a commercial bank on March 28, 2003. The facility was amended in June 2003 as part of the product divestments in June. The line of credit facility, which has a term of one-year, includes a borrowing base equal to 75% of eligible accounts receivable up to a maximum amount of $2.5 million as amended in June 2003. Certain other assets have also been pledged as collateral for this facility. The interest rate is equal to two points over the bank s prime rate, with a minimum rate of 6.75%. The Company will be subject to certain other requirements during the term of the facility, including minimum quarterly net equity amounts and maximum monthly net losses. At December 31, 2003, there was $1.8 million available under this facility. In late March 2004, the Company extended this facility to September 30, 2004 under the same terms described above. The Company has not borrowed under this facility.

The Company s commitments for outside development spending increased to approximately $14.7 million at December 31, 2003 from $5.7 million at December 31, 2002. These commitments are generally for less than one year. The increase is principally attributable to the clinical trials for Xyrem development activities, including both the current Phase III(b) trials and the Fibromyalgia trial, which is expected to begin patient enrollment in the second quarter of 2004. The Company expects development spending to increase as the two Xyrem Phase III(b) clinical trials progress and post approval surveillance studies are completed. In addition, the Company continues to look at new product opportunities and any new initiatives will increase development spending. Due to the dependence of this estimate on the results of the studies and other variable components, the actual result of this estimate may be different.

The Company has future contractual commitments for the following cash obligations in thousands:

	Total	Less than one year	1-3 Years	4-5 Years	After 5 Years
Capital lease obligations	$ 96	$ 24	$ 48	$ 24	
Operating lease obligations (1)	839	510	329		
Outside Development Spending	14,665	14,665			
Total contractual cash obligations	$ 15,600	$ 15,199	$ 377	$ 24	

(1) These amounts include facilities, office equipment, and automobiles for the Company s field sales force.

The Company expects that sales and marketing spending will decrease compared to 2003 spending levels. Management believes that existing cash, expected milestone payments from the Celltech agreement and operating cash flows from product sales will be sufficient to fund its operations at least through December 31, 2004.

For continued listing on the NASDAQ National Market, a company must satisfy a number of requirements, which in the Company s case include either: (1) minimum net equity in excess of $10.0 million or (2) a market capitalization of at least $50.0 million. The Company met both requirements at December 31, 2003. Although the Company does not expect to be profitable in 2004, the Company nevertheless expects to continue to meet the requirements for listing on the NASDAQ National Market. However there can be no assurance that the Company will continue to have adequate capital to meet the requirements through the year 2004 and thereafter.

In connection with the 1998 and 1999 private placements of convertible preferred stock, the Company agreed to certain restrictions and covenants, which could limit its ability to obtain additional financing. The most important of the restrictions are: (1) the Company cannot incur additional indebtedness, except for indebtedness secured solely by the Company s trade receivables, until it has profitable operations, subject to certain limitations and (2) the Company cannot, without the approval of a majority of the preferred stockholders, issue additional equity securities unless the

selling price per share exceeds the then conversion price of the outstanding convertible preferred stock or the sale of equity is accomplished in a public offering. The present conversion price is $8.14 for the Senior Convertible Preferred Stock and $6.50 for the Series B Convertible Preferred Stock. Even without these restrictions, the Company can make no assurances that additional financing opportunities will be available or, if available, on acceptable terms.

Off-Balance Sheet Arrangements
We do not participate in transactions or have relationships or other arrangement with an unconsolidated entity, which include special purpose and similar entities or other off-balance sheet arrangements.

Recent Accounting Pronouncements
In January 2003, the FASB issued Financial Interpretation No. 46, or FIN 46, *Consolidation of Variable Interest Entities*, and in December 2003, issued a revision to FIN 46 (FIN 46R). FIN 46 requires that if an entity has a controlling financial interest in a variable interest entity, the assets, liabilities and results of activities of the variable interest entity should be included in the consolidated financial statements of the entity. FIN 46 is effective immediately for all new variable interest entities created or acquired after January 31, 2003. For variable interest entities created or acquired prior to February 1, 2003, the provisions of FIN 46 must be applied for the first interim or annual period ending after December 15, 2003. The adoption of FIN 46 will not have a material effect on our results of operations, cash flows or financial position.

In May 2003, the FASB issued SFAS No. 150, *Accounting for Certain Financial Instruments with Characteristics of Both Liabilities and Equity.* SFAS No. 150 establishes standards for how an issuer classifies and measures in its statement of financial position certain financial instruments with characteristics of both liabilities and equity. SFAS No. 150 requires that an issuer classify a financial instrument that is within its scope as a liability (or an asset in some circumstances) because that financial instrument embodies an obligation of the issuer. This statement is effective for financial instruments entered into or modified after May 31, 2003, and otherwise is effective at the beginning of the first interim period beginning after June 15, 2003. The Company adopted SFAS No. 150 as of July 1, 2003. The adoption of SFAS No. 150 did not have a material effect on our results of operations, cash flows or financial position.

RISK FACTORS
An investment in our common stock involves a number of risks, including among others, risks associated with companies that operate in the pharmaceutical industry. These risks are substantial and inherent in our operations and industry. Any investor or potential investor should carefully consider the following information about these risks before buying shares of common stock.

We have a history of losses, which we expect to continue.

We have been unprofitable, with the exception of 2003 due to the divestment of three products, since our inception in January 1993. We expect operating losses at least through 2004 because anticipated gross profits from product revenues will not offset our operating expenses and additional spending to continue drug development activities. The amount of these losses may vary significantly from year-to-year and quarter-to-quarter. Our actual losses will depend on, among other factors, the timing of product development, regulatory approval, and market demand for our Food and Drug Administration approved products. We cannot assure you that we will ever generate sufficient product revenues to achieve profitability.

We cannot be sure that future capital will be available to meet our expected capital requirements.

Although we believe that we have sufficient capital to meet out current business objectives, if we expand our business plans, we may need additional capital. Adequate funds for our operations, continued development, and expansion of our business plans, whether from financial markets or from other sources, may not be available when needed on acceptable terms, or at all. If we issue additional securities your holding may be diluted.

In addition there are restrictions on our ability to raise additional capital that are part of the terms of the sales of our preferred stock. On July 23, 1998, we completed the private sale to UBS Capital of $7.5 million of Senior Convertible Preferred Stock. On August 2, 1999, we completed another private sale to UBS Capital of $2.95 million of Series B Convertible Preferred Stock. In conjunction with the issuance of the preferred shares, we agreed to several restrictions and covenants, and granted certain voting and other rights to the holders of the preferred shares. One of the most important of these restrictions is that we cannot incur additional indebtedness, except for indebtedness secured solely by our trade receivables, until we have profitable operations, subject to certain limitations. Another important restriction is that, without the approval of a majority of the preferred stockholders, we cannot issue additional equity securities unless the selling price per share exceeds the then conversion price of the outstanding convertible preferred stock or the sale of equity is accomplished in a public offering. The present conversion price is $8.14 per share for the Senior Convertible

Preferred Stock and $6.50 for the Series B Convertible Preferred Stock. These restrictions could make it more difficult and more costly for us to obtain additional capital. We cannot assure you that additional sources of capital will be available to us or, if available, on terms acceptable to us.

Possible Price Volatility and Limited Liquidity of Common Stock.

There is generally significant volatility in the market prices and limited liquidity of securities of early stage companies, and particularly of early stage pharmaceutical companies. Contributing to this volatility are various factors and events that can affect our stock price in a positive or negative manner. These factors and events include, but are not limited to:

- announcements by us or our competitors of new product developments or clinical testing results;
- governmental approvals, refusals to approve, regulations or actions;
- developments or disputes relating to patents or proprietary rights;
- public concern over the safety of therapies;
- financial performance;
- fluctuations in financial performance from period to period; and
- small float or number of shares of our stock available for sale and trade.

There is also a risk that the market value and the liquidity of the public float for our common stock could be adversely affected in the event we no longer meet the Nasdaq s requirements for continued listing on the National Market. For continued listing on the Nasdaq National Market, a company must satisfy a number of requirements, which in our case includes either: (1) minimum net equity in excess of $10.0 million as reported on Form 10-Q or Form 10-K or (2) a market capitalization of at least $50.0 million. Market capitalization is defined as total outstanding shares multiplied by the last sales price quoted by Nasdaq. We met both criteria as of December 31, 2003, however, we cannot assure you that the market capitalization threshold will continue to be met or that we will be able to generate adequate capital to meet the net tangible asset requirement.

These and other factors and events may have a significant impact on our business and on the market price of the common stock.

There is a limited market for our products.

Most orphan drugs have a potential United States market of less than $25 million annually and many address annual markets of less than $1 million. Although we expect combined revenue from the sales of Antizol, Cystadane, and Antizol-Vet in 2004 to be approximately $7.0 million, we believe that the total market opportunity for these three products is not likely to exceed $10.0 million in the foreseeable future.

We expect revenue from Xyrem in 2004 to be approximately $12.0 million to $14.0 million. We believe that the market opportunity for Xyrem may be substantially larger for the indication of cataplexy in narcolepsy, and, if our clinical trials in our product development programs that are underway produce positive data, they may result in increased market opportunity for Xyrem. However, we cannot assure you that sales of our products will be adequate to make us profitable even if the products are accepted by medical specialists and used by patients.

We currently rely on the limited protection of the Orphan Drug Act for certain products.

Since our inception, all of our products have been granted orphan drug status by the FDA. Medicines developed or acquired in the future may hold orphan drug status, although we may develop or acquire products that do not hold such status if we can obtain appropriate proprietary protection through patents or otherwise. Currently, two of our products have orphan drug status: Xyrem, with an expiration date of July 17, 2009, and Antizol, with an expiration date of December 6, 2004.

United States

Under the Orphan Drug Act, the FDA may grant orphan drug designation to drugs intended to treat a rare disease or condition. The Orphan Drug Act generally defines rare disease or condition as one that affects populations of fewer than 200,000 people in the United States. The Orphan Drug Act provides us with certain limited protections for our products.

The first step in obtaining the limited protection under the Orphan Drug Act is acquiring the FDA s approval of orphan drug designation, which must be requested before submitting a New Drug Application (NDA). After the FDA grants orphan drug designation, it publishes the generic identity of the therapeutic agent and the potential orphan use specified in the request. Orphan drug designation does not constitute FDA approval. In addition, orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory approval process.

The second step in obtaining the limited protection under the Orphan Drug Act is acquiring the FDA s recognition of orphan drug status. The Orphan Drug Act confers orphan drug status upon the first company to receive FDA approval to market a drug with orphan drug designation for a specific designated indication. Orphan drug status does not protect against another formulation or drug of materially different composition from being approved, with or without orphan drug status, for the same indication. FDA approval also results in United States marketing exclusivity for a period of seven years, subject to certain limitations. Although obtaining FDA approval to market a product with orphan drug status can be advantageous, we cannot assure you that the scope of protection or the level of marketing exclusivity will remain in effect in the future. In addition, United States orphan drug status does not provide any marketing exclusivity in foreign markets. Although certain foreign countries provide development and marketing benefits to orphan drugs, we cannot assure you that such benefits can be obtained or, if obtained, will be of material value to us. The FDA has granted us orphan drug status for Xyrem, Antizol, and Cystadane. Upon expiration of orphan drug status, our products might be subject to competition from other pharmaceutical companies.

Even if the FDA approves an NDA for a drug with orphan drug designation, the FDA may still approve the same drug for a different indication, or a molecular variation of the same drug for the same indication. In addition, the FDA does not restrict doctors from prescribing an approved drug for uses not approved by the FDA for that drug. Thus, a doctor could prescribe another company s drug for indications for which our product has received FDA approval and orphan drug status. Significant off label use, that is, prescribing approved drugs for unapproved uses, could adversely affect the marketing potential of any of our products that have received orphan drug status and NDA approval by FDA.

The possible amendment of the Orphan Drug Act by Congress has been the subject of congressional discussion from time to time over the last ten years. Although Congress has made no significant changes to the Orphan Drug Act for a number of years, members of Congress have from time to time proposed legislation that would limit the application of the Orphan Drug Act. We cannot assure you that the Orphan Drug Act will remain in effect or that it will remain in effect in its current form. The precise scope of protection that orphan drug designation and marketing approval may afford in the future is unknown. We cannot assure you that the current level of exclusivity will remain in effect.

Europe

An orphan drug act was enacted in the European Union that provides up to ten years of market exclusivity for a drug that meets the requirements of the act. For a pharmaceutical product to qualify for the benefits of the act, the prevalence or incidence (whichever is greater) must not exceed five patients per 10,000 in the population. Our European partners have obtained orphan drug designation for Cystadane in Europe. The Company has obtained orphan drug designation for Xyrem and Antizol, for use in methanol poisonings, in Europe. European orphan drug designation of Antizol was withdrawn by the Company in 2003. We cannot provide assurance that any of our pharmaceutical products will qualify for orphan drug protection in the European Union or that another company will not obtain an approval that would block us from marketing our product in the European Union.

Patents and other proprietary rights are important factors in our business.

The pharmaceutical industry and the investment community place considerable importance and value on obtaining patent, proprietary, and trade secret protection for new technologies, products and processes. The patent position of pharmaceutical firms is often highly uncertain and generally involves complex legal, technical and factual questions. Our success depends on several issues, including, but not limited to our ability:

- to obtain, and enforce proprietary protection for our products under United States and foreign patent laws and other intellectual property laws;
- to preserve the confidentiality of our trade secrets; and
- to operate without infringing the proprietary rights of third parties.

We evaluate the desirability of seeking patent or other forms of protection for our products in foreign markets based on the expected costs and relative benefits of attaining such protection. We cannot assure you that any patents will be issued from any applications or that any issued patents will afford us adequate protection or competitive advantage. Also, we cannot assure you that any issued patents will not be challenged, invalidated, infringed or circumvented. Parties not affiliated with us have obtained or may obtain United States or foreign patents or possess or may possess proprietary rights relating to our products. We cannot assure you that patents now in existence or later issued to others will not adversely affect the development or commercialization of our products.

We believe that the active ingredients or compounds in our FDA-approved products, Cystadane, Antizol, Antizol-Vet, and Xyrem, are in the public domain and presently are not subject to patent protection in the United States. We have a patent with respect to our formulation of Xyrem oral solution.

We have orphan drug protection for Antizol and Xyrem, which provides proprietary protection against potential competition. We could, however, incur substantial costs asserting any infringement claims that we may have against others. Upon expiration of orphan drug status our products might be subject to competition from other pharmaceutical companies.

We seek to protect our proprietary information and technology, in part, through confidentiality agreements and inventors rights agreements with our employees. We cannot assure you that these agreements will not be breached, that we will have adequate remedies for any breach, or that our trade secrets will not otherwise be disclosed to or discovered by our competitors. We also cannot assure you that our planned activities will not infringe patents owned by others. We could incur substantial costs in defending infringement suits brought against us. We also could incur substantial costs in connection with any suits relating to matters for which we have agreed to indemnify our licensors or distributors. An adverse outcome in any such litigation could have a material adverse effect on our business and prospects. In addition, we often must obtain licenses under patents or other proprietary rights of third parties. We cannot assure you that we can obtain any such licenses on acceptable terms, if at all. If we cannot obtain required licenses on acceptable terms, we could encounter substantial difficulties in developing, manufacturing or marketing one or more of our products.

The FDA must agree with investigational new drug applications prior to the initiation of clinical development programs.

Prior to the initiation of a clinical development program, companies submit an investigational new drug application (IND) to the FDA. If the FDA notifies the submitting sponsor that the IND requires additional information or is not approvable, the potential development program may be significantly delayed or terminated. We cannot assure you that IND applications submitted by us to the FDA, including butamben, will proceed in a timely manner. Further, it is possible that FDA action may result in the termination of the potential development program.

The FDA and foreign regulatory authorities must approve any new products we may develop, including butamben, before such products can be commercially sold.

Government regulation in the United States and abroad is a significant factor in the testing, production and marketing of our current and future products. Each product must undergo an extensive regulatory review process conducted by the United States Food and Drug Administration and by comparable agencies in other countries. We cannot market any medicine we may develop or license as a prescription product in any jurisdiction, including foreign countries, in which the product does not receive regulatory approval. The approval process can take many years and requires the expenditure of substantial resources.

We depend on external laboratories and medical institutions to conduct our pre-clinical and clinical analytical testing in compliance with good clinical and laboratory practices established by the FDA. The data obtained from pre-clinical and clinical testing is subject to varying interpretations that could delay, limit or prevent regulatory approval. In addition, changes in FDA policy for drug approval during the period of development and in the requirements for regulatory review of each submitted NDA could result in additional delays or outright rejection.

We cannot assure you that the FDA or any foreign regulatory authority will approve a regulatory marketing application in a timely manner, if at all, with respect to any products we develop. Generally, the FDA and foreign regulatory authorities approve only a very small percentage of newly discovered pharmaceutical compounds that enter pre-clinical development. Moreover, even if the FDA approves a product, it may place commercially unacceptable limitations on the uses, or indications, for which a product may be marketed. This would result in additional cost and

delay to the extent that further studies are required to provide additional data on safety or effectiveness.

FDA approval does not guarantee financial success.

Four of our currently marketed products have been approved for marketing by regulatory authorities in the United States and elsewhere. We cannot assure you that any of our products will be commercially successful or achieve the expected financial results as a result of limited markets for our products as discussed in the risk factor entitled, There is a limited market for our products . We may encounter unanticipated problems relating to the development, manufacturing, distribution and marketing of our products. Some of these problems may be beyond our financial and technical capacity to solve. The failure to adequately address any such problems could have a material adverse effect on our business and our prospects. In addition, the efforts of government entities and third party payors to contain or reduce the costs of health care may adversely affect our sales and limit the commercial success of our products.

We cannot completely insulate our drug development portfolio from the possibility of clinical or commercial failures or generic competition. Some products that we have selected for development may not produce the results expected during clinical trials or receive FDA approval. Drugs approved by the FDA may not generate product sales of an acceptable level. We have discontinued the development of eleven products from our portfolio since inception.

In addition we continue to invest in the development of additional indications for Xyrem. This spending, along with costs associated with the on-going marketing and selling of Xyrem, resulted in a loss from operations in fiscal 2003. We expect that we will incur a loss from operations in 2004 and 2005.

Significant government regulation continues once a product is approved for sale.

After a reviewing division of the FDA approves a drug, the FDA s Division of Drug Marketing, Advertising and Communication must accept such drug s marketing claims, which are the basis for the drug s labeling, advertising and promotion. We cannot be sure that the Division of Drug Marketing, Advertising and Communication will accept our proposed marketing claims. The failure of the Division of Drug Marketing, Advertising and Communication to accept our proposed marketing claims could have a material adverse effect on our business and prospects.

The FDA can require that a company conduct post-marketing adverse event surveillance programs to monitor any side effects that occur after the company s drug is approved for marketing. If the surveillance program indicates unsafe side effects, the FDA may recall the product, and suspend or terminate a company s authorization to market the product. The FDA also regulates the manufacturing process for an approved drug. The FDA may impose restrictions or sanctions upon the subsequent discovery of previously unknown problems with a product or manufacturer. One possible sanction is requiring the withdrawal of such product from the market. The FDA must approve any change in manufacturer as well as most changes in the manufacturing process prior to implementation. Obtaining the FDA s approval for a change in manufacturing procedures or change in manufacturers is a lengthy process and could cause production delays and loss of sales, which would have a material adverse effect on our business and our prospects.

Certain foreign countries regulate the sales price of a product after marketing approval is granted. We cannot be sure that we can sell our products at satisfactory prices in foreign markets even if foreign regulatory authorities grant marketing approval.

We rely on others for product development opportunities.

We engage only in limited research to identify new pharmaceutical compounds. To build our product portfolio, we have adopted a license and acquisition strategy. This strategy for growth requires us to identify and acquire pharmaceutical products targeted at niche markets within selected therapeutic market segments. These products usually require further development and approval by regulatory bodies before they can be marketed. We cannot assure you that any such products can be successfully acquired, developed, approved or marketed. We must rely upon the willingness of others to sell or license pharmaceutical product opportunities to us. Other companies, including those with substantially greater resources, compete with us to acquire such products. We cannot assure you that we will be able to acquire rights to additional products on acceptable terms, if at all. Our failure to acquire or license any new

pharmaceutical products, or our failure to promote and market any products successfully within an existing therapeutic area, could have a material adverse effect on our business and our prospects.

We have contractual development rights to certain compounds through various license agreements. Generally, the licensor can unilaterally terminate these agreements for several reasons, including, but not limited to the following reasons:

- for cause if we breach the contract;
- if we become insolvent or bankrupt;
- if we do not apply specified minimum resources and efforts to develop the compound under license; or
- if we do not achieve certain minimum royalty payments, or in some cases, minimum sales levels.

We cannot assure you that we can meet all specified requirements and avoid termination of any license agreements. We cannot assure you that if any agreement is terminated, we will be able to enter into similar agreements on terms as favorable as those contained in our existing license agreements.

We have invested most of our capital in the development of products already licensed to or under the control of the Company, therefore this risk has not had a material impact on our business in the past. However as we look for additional opportunities to expand our product portfolio, this risk factor may have an adverse effect on our business.

A failure by our manufacturers or suppliers to deliver product timely could adversely affect sales revenue.

We do not have and do not currently intend to establish any manufacturing capability for drug products. Instead, we engage third parties to manufacture our products. Failure by parties with whom we contract to adequately perform their responsibilities may delay the submission of products for regulatory approval, impair our ability to deliver our products on a timely basis or otherwise adversely affect our business and our prospects.

The loss of either a bulk drug supplier or drug product manufacturer would require us to obtain regulatory clearance in the form of a pre-approval submission and incur validation and other costs associated with the transfer of the bulk drug or drug product manufacturing process. We believe that it could take as long as two years for the FDA to approve such a submission. Because our products are targeted to relatively small markets and our manufacturing production runs are small by industry standards, we have not incurred the added costs to certify and maintain secondary sources of supply for bulk drug substance or backup drug product manufacturers for some products. Should we lose either a bulk drug supplier or a drug product manufacturer, we could run out of salable product to meet market demands or investigational product for use in clinical trials, while we wait for the FDA approval of a new bulk drug supplier or drug product manufacturer.

During the course of negotiations in the ordinary course of business to renew or extend an agreement with a manufacturing vendor, on occasion, the Company s vendors have indicated that if price increases cannot be successfully negotiated that their agreement may need to be terminated. If this were to occur, we believe that there are alternate manufacturing and supply sources that would be available both on acceptable terms and on a timely basis for our products. In addition, our agreements generally require the manufacturer or supplier to continue to perform their obligations under these agreements for at least one year, and in some cases, two years, following formal notice of termination, during which period we would seek to implement new manufacturing and supply relationships. However, we cannot assure you that the change of a bulk drug supplier or drug product manufacturer and the transfer of the processes to another third party will be approved by the FDA, and if approved, in a timely manner. Therefore, we may experience additional costs and delay which switching providers, which in turn could adversely affect sales revenue.

Bulk Drug Supply

Bulk drug substance is the active chemical compound used in the manufacture of our drug products. We currently have a single supplier for the supply of bulk drug substance used in Antizol and Antizol-Vet. If we were to lose this company as a supplier, we would be required to identify a new supplier for the bulk drug substance. We also currently use a single supplier for the supply of bulk drug substance used in Xyrem, which is expected to account for approximately 65% of our revenue in 2004. If we were to lose this company as a supplier, we would be required to identify a new supplier.

Drug Product Manufacture

From bulk drug substance, drug product manufacturers formulate a finished drug product and package the product for sale or for use in clinical trials. We also use a single supplier for drug product manufacturing of Antizol, Antizol-Vet and a different supplier has been authorized to manufacture Xyrem. If we were to lose either of these

companies as a manufacturer, we would be required to identify a new manufacturer; We cannot assure you that our drug product manufacturing arrangements with either or both of these suppliers will not change.

We cannot control our contractors compliance with applicable regulations.

The FDA defines and regulates good manufacturing practices to which bulk drug suppliers and drug product manufacturers are subject. The Drug Enforcement Agency (DEA) defines and regulates the handling and reporting requirements for certain drugs which have abuse potential, known as scheduled drugs. Foreign regulatory authorities prescribe similar rules and regulations. Our supply and manufacturing contractors must comply with these regulatory requirements. Failure by our contractors to comply with FDA or DEA requirements or applicable foreign requirements could result in significant time delays or in our inability to commercialize or continue to market a product. Either result could have a material adverse effect on our business and prospects. Failure to comply with good manufacturing practices or other applicable legal requirements can lead to federal seizure of violative products, injunctive actions brought by the federal government, or potential criminal and civil liability for Orphan Medical, our officers, or our employees. This risk has not impacted us in the past and we are not aware of any instances of noncompliance with applicable regulations that may materially impact our business. We cannot assure you that we will be able to maintain relationships either domestically or abroad with contractors whose facilities and procedures comply or will continue to comply with FDA or DEA requirements or applicable foreign requirements.

We have a single distribution for three of our products: Antizol, Antizol-Vet and Cystadane.

We have an agreement with a single distribution contractor to provide integrated distribution and operations services to support transactions between us and our wholesalers, specialty distributors, and direct customers. This contractor also provides reimbursement management, patient assistance and information hotline services and specialty distribution and marketing services to physician practices with respect to our products. The contractor currently distributes Antizol, Antizol-Vet and Cystadane. The contractor may also distribute future products should those products receive marketing clearance from the FDA. A failure by this distributor to fulfill its responsibilities might have an adverse affect on our ability to meet customer demand in a timely manner.

We cannot assure you that our distribution arrangements with this entity or other third parties would be available, or continue to be available to us on commercially acceptable terms. The loss of a distributor or failure to renew agreements with an existing distributor could have a material adverse effect on our business and prospects.

Xyrem is clasified as a Schedule III controlled substance.

We have an agreement with a specialty pharmacy to distribute Xyrem. Xyrem is classified as a Schedule III controlled substance and approved under Subpart H of the FDA s review process, and distribution is strictly controlled. The specialty pharmacy is the only source through which Xyrem can be obtained. Distribution is governed by the FDA s Subpart H regulations and complies with the risk-management controls jointly developed by Orphan Medical, the FDA, the Drug Enforcement Agency and law enforcement agencies. Every shipment of Xyrem is subject to stringent safeguards to ensure it reaches only individuals for whom it has been legitimately prescribed.

Our purchases of sodium oxybate, the active ingredient in Xyrem, for use in the production of Xyrem are subject to quota that is approved by the U.S. Drug Enforcement Administration. Supply disruption could result from delays in obtaining DEA approvals or the receipt of approvals for quantitities of sodium oxybate that are insufficient to meet current or projected product demand. The quota system also limits our ability to build inventories as a method of insuring against possible supply disruptions.

We rely on foreign marketing alliances and have no assurance of foreign licensees.

Our strategy to sell our products in foreign markets is to license foreign marketing and distribution rights to a foreign company after a new drug application is submitted or approved in the United States. We consider Europe, Asia, and Canada our most attractive foreign markets. Our current foreign arrangements are:

- *Europe.* We have licensed the marketing and distribution rights for Xyrem and Cystadane in Europe. If our licensees are unsuccessful in their registration and distribution efforts, we may find it difficult to contract with other distributors for these products within Europe. Distribution of all products except Antizol is limited to named patient or emergency use basis until full regulatory approval is obtained. Antizol has been approved for use in the United Kingdom but is limited to named patient basis in other parts of Europe. This distribution of the Company s products is expected to result in a limited contribution to the Company s revenues.

- *Australia and New Zealand.* We have licensed marketing and distribution rights for Cystadane in Australia and New Zealand, but sales of these products have not been material. We do not expect sales to increase in the near future to the point that they become material.

- *Israel.* We have licensed marketing and distribution rights for Antizol and Cystadane in Israel. Full regulatory approval for Cystadane was obtained in Israel in February 2000. We do not expect such distribution to result in material revenues.

- *Canada.* We have licensed marketing and distribution rights for Antizol in Canada. For Cystadane we have only licensed the distribution rights in Canada. We do not expect such distribution to result in material revenues.

We depend on our foreign licensees for the regulatory registration of our products in foreign countries. We cannot be sure that our licensees can obtain such registration. In addition, we cannot be sure that we will be able to negotiate commercially acceptable license agreements for our other products or in additional foreign countries. Furthermore, we cannot assure you that these companies will be successful in marketing and selling our products in their respective territories.

Our products might be recalled.

A product can be recalled at our discretion or at the discretion of the FDA, the U.S. Federal Trade Commission, or other government agencies having regulatory authority for marketed products. A recall may occur due to disputed labeling claims, manufacturing issues, quality defects, safety issues, or other reasons. We cannot assure you that a product recall will not occur. We do not carry any insurance to cover the risk of a potential product recall. Any product recall could have a material adverse effect on our business and prospects. To date, no recall of products marketed by the Company has occurred.

We face limits on price flexibility and third-party reimbursement.

The flexibility of prices that we can charge for our products depends on government regulation, both in the United States and abroad, and on other third parties. One important factor is the extent to which reimbursement for our products will be available to patients from government health administration authorities, private health insurers and other third-party payors. Government officials and private health insurers are increasingly challenging the price of medical products and services. We are uncertain as to the pricing flexibility we will have with respect to, and if we will be reimbursed for, newly approved health care products.

In the United States, we expect continuing federal and state proposals to implement greater government control of the pricing and profitability of prescription pharmaceuticals. Cost controls, if mandated by a government agency, could decrease, or limit, the price we receive for our products or products we may develop in the future. We may not be able to recover our development costs, which could be substantial. We may not be able to realize an appropriate profit margin. This could have a material adverse effect on our business. Furthermore, federal and state regulations govern or influence reimbursement of health care providers for medical treatment of certain patients. We cannot assure you that actions taken by federal and/or state governments, if any, with regard to health care reform will not have a material adverse effect on our business and prospects.

Certain private health insurers and third-party payors may attempt to control costs further by selecting exclusive providers of pharmaceuticals. If such arrangements are made with our competitors, these insurers and third-party payors would not reimburse patients who purchase our competing products. This would diminish the market for our products and could have a material adverse effect on our business and prospects.

We face intense competition in our industry.

Competition in the pharmaceutical industry is intense. Potential competitors in the United States are numerous and include pharmaceutical, chemical and biotechnology companies. Many of these companies have substantially greater capital resources, marketing experience, research and development staffs and facilities than we do. We seek to limit potential sources of competition by developing products that are eligible for orphan drug status upon NDA approval or other forms of protection. We cannot assure you, however, that our competitors will not succeed in developing similar technologies and products more rapidly than we can. Similarly, we cannot assure you that these competing technologies and products will not be more effective than any of those that we have developed or are currently developing.

We expect rapid technological and other change to be constant in our industry.

The pharmaceutical industry has experienced rapid and significant technological change as well as structural changes, such as those brought about by changes in heath care delivery or in product distribution. We expect that pharmaceutical technology will continue to develop and change rapidly, and our future success will depend, in large part, on our ability to develop and maintain a competitive position. Technological development by others may result in our products becoming obsolete before they are marketed or before we recover a significant portion of the development and commercialization expenses incurred with respect to such products. In addition, alternative therapies, new medical treatments, or changes in the manner in which health care is delivered or products provided could alter existing treatment regimes or health care practices, and thereby reduce the need for one or more of our products, which would adversely affect our business and our prospects.

We face substantial product liability and insurance risks.

Testing and selling health care products entails the inherent risk of product liability claims. The cost of product liability insurance coverage has increased and is likely to continue to increase in the future. Substantial increases in insurance premium costs in many cases have rendered coverage economically impractical. We currently carry product liability coverage in the aggregate amount of $30 million for all claims made in any policy year. Although to date we have not been the subject of any product liability or other claims, we cannot assure you that we will be able to maintain product liability insurance on acceptable terms or that our insurance will provide adequate coverage against potential claims. A successful uninsured product liability or other claim against us could have a material adverse effect on our business and prospects.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Exposure
We manage our investment portfolio in accordance with our investment policy. The primary objectives of our investment policy are to preserve principal, maintain a high degree of liquidity to meet operating needs, and obtain competitive returns subject to prevailing market conditions. Investments are made with average maturities matching the liquidity needs of the Company. These types of investments are subject to risk of default, changes in credit rating and changes in market value. These investments are also subject to interest rate risk and will decrease in value if market interest rates increase. Due to the conservative nature of our investments and relatively short effective maturities of the debt instruments, we believe interest rate risk is mitigated. Our investment policy specifies the credit quality standards for our investments and limits the amount of exposure from any single issue, issuer or type of investment.

Foreign Currency Exposure
Most of our revenue, expenses and capital spending are transacted in U.S. dollars. Our foreign currency transactions are translated into U.S. dollars at prevailing rates. Gains or losses resulting from foreign currency transactions are included in current period income or loss as incurred. Currently, all material transactions are denominated in U.S. dollars, and we have not entered into any material transactions that are denominated in foreign currencies.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTAL DATA

The financial statements of the Company as of December 31, 2003 and 2002 and for the three years ended December 31, 2003 begin on page F-1 of this Annual Report.

ITEM 9. CHANGES AND DISAGREEMENTS WITH ACCOUNTANTS AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

The Company s management, with participation of the Company s Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of the Company s disclosure controls and procedures as of December 31, 2003. Based on that evaluation, the Company s Chief Executive Officer and Chief Financial Officer concluded that the Company s disclosure controls and procedures were effective as of December 31, 2003. There were no material changes in the Company s internal control over financial reporting during the fourth quarter of 2003.

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

(a) Directors of the Registrant.
The information required by this item is incorporated by reference from the information under the caption Election of Directors contained in the Company s Proxy Statement to be filed with the Securities and Exchange Commission in connection with the solicitation of proxies for the Company s Annual Meeting of Shareholders to be held on June 15, 2004 (the Proxy Statement).

(b) Executive Officers of the Registrant.
Information concerning Executive Officers of the Company is included in this Annual Report in Item 4A under the caption Executive Officers of the Registrant .

(c) Identification of the Audit Committee; Audit Committee Financial Expert.
The information required in this item is incorporated by reference from the information under the caption Board of Directors Meetings and Committees in the Company s Proxy Statement.

(d) Compliance with 16(a) of the Securities Exchange Act of 1934.
The information required by this item is incorporated by reference from the information under the caption Section 16(a) Reporting contained in the Proxy Statement.

(e) Code of Ethics.
The information required by this item is incorporated by reference from the information under the caption "Ethics Policy" contained in the proxy statement.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item is incorporated by reference from the information under the caption Executive Compensation contained in the Proxy Statement.

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

The table on the following page sets forth, as of March 1, 2003, certain information with respect to the beneficial ownership of the Company s Common Stock by (i) each person who, to the knowledge of the Company, owned beneficially more than five percent of such stock, and (ii) each director, (iii) each executive officer named in the Summary Compensation Table above, and (iv) all directors and executive officers as a group. Unless otherwise noted, the shares listed in the table below are subject to sole voting and investment power of the indicated person.

Beneficial ownership is determined and presented in the table on the following page in accordance with rules of the Securities and Exchange Commission, and includes general voting power and/or investment power with respect to the securities. Shares of the Company s Common Stock subject to options currently exercisable or exercisable within 60 days of March 1, 2004, are deemed to be outstanding for purposes of computing the percentage of the person holding such options, but are not deemed outstanding for computing the percentage of any other person. With respect to UBS Capital II LLC, the percentage of ownership calculation is based on Common Shares outstanding as of March 1, 2004, plus 1,069,533 shares of Common Stock, which represents 8,706 shares of Senior Convertible Preferred Stock owned by UBS Capital II LLC on an as converted basis.

Name and Address of Beneficial Owner	Amount and Nature of Beneficial Ownership	Percentage of Common Stock Outstanding

Name and Address of Beneficial Owner	Amount and Nature of Beneficial Ownership	Percentage of Common Stock Outstanding
Alta Partners II, Inc. (1) One Embarcadero Center, Suite 4050 San Francisco, CA 94111	1,212,121	11.27%
OrbiMed Advisors LLC (2) 767 Third Avenue 6th Floor New York, NY 10017-2023	1,617,302	15.04
UBS Capital II LLC (3) 299 Park Avenue New York, NY 10171-0026	1,250,406	10.42
Galleon Group (4) 135 East 57th Street, 16th Floor New York, NY 10022-2050	882,358	8.21
John Howell Bullion (5)	594,362	5.30
William Houghton, M.D. (6)	190,341	1.74
Mark D. Perrin (7)	62,750	*
Timothy G. McGrath (8)	65,739	*
Farah Champsi (9)	13,000	*
Michael Greene (10)	28,000	*
Thomas King (11)	13,000	*
Julius A. Vida, Ph.D. (12)	28,000	*
William M. Wardell, M.D., Ph.D. (13)	59,500	*
All directors and executive officers as a group (11 persons)(14)	1,214,158	10.28

* Less than one percent.

(1) Alta Partners II, Inc. serves as the management advisory company of various funds which hold shares of the Company s Common Stock. In this capacity, Alta Partners II, Inc. is affiliated with Alta BioPharma Partners II, L.P., Alta Embarcadero BioPharma Partners II, LLC, Alta BioPharma Management Partners II, LLC, Alta Partners II, Inc. and Jean Deleage, Alix Marduel and Farah Champsi. The beneficial ownership information is based on a schedule 13D filed by Alta Partners on December 17, 2001.

(2) OrbiMed Advisors LLC has shared voting and dispositive power with respect to 1,617,302 shares of the Company s Common Stock. The number of shares beneficially owned is based on a schedule 13G filed by OrbiMed Advisors on February 14, 2003. Mr. Samuel Isaly has voting power for these shares.

(3) UBS Capital II LLC has sole voting and investment power with respect to: 8,706 shares of Senior Convertible Preferred Stock, which is convertible into 1,069,533 shares of Common Stock, and 180,873 shares of unregistered Common Stock. The shares of Senior Preferred Convertible Stock vote on an as-converted basis. In addition, UBS Capital owns (i) 3,677 shares of non-voting Series B Convertible Preferred Stock, which is convertible into 565,692 shares of Common Stock, (ii) a warrant to purchase up to 2,050 shares of non-voting Series C Convertible Preferred Stock or 315,385 shares of Series D Non-Voting Convertible Preferred Stock or any combination thereof up to a maximum aggregate purchase price of $2,050,000 and (iii) a warrant to purchase up to 282,353 shares of Series D Non-Voting Convertible Preferred Stock. Mr. Michael Greene, a director of the Company, has voting power for these shares.

(4) Based on a schedule 13F filed by Galleon Group LP on February 6, 2004. Mr. Rajaratram, Managing Member of Galleon Management, L.P. s General Partner, has voting power for these shares.

(5) Includes 466,650 shares issuable upon the exercise of options that are currently exercisable or will become issuable pursuant to options exercisable within 60 days after March 1, 2004.

(6) Includes 175,370 shares issuable upon the exercise of options that are currently exercisable or will become issuable pursuant to options exercisable within 60 days after March 1, 2004.

(7) Includes 62,750 shares issuable upon the exercise of options that are currently exercisable or will become issuable pursuant to options exercisable within 60 days after March 1, 2004.

(8) Includes 63,635 shares issuable upon the exercise of options that are currently exercisable or will become issuable pursuant to options exercisable within 60 days after March 1, 2004.

(9) Includes 13,000 shares issuable upon the exercise of options that are currently exercisable or will become issuable pursuant to options exercisable within 60 days after March 1, 2004. Ms. Champsi is affiliated with Alta Partners II, Inc. and she disclaims beneficial ownership of any shares of Common Stock beneficially owned by Alta Partners II, Inc. and its affiliates.

(10) Includes 28,000 shares issuable upon the exercise of options that are currently exercisable or will become issuable pursuant to options exercisable within 60 days after March 1, 2004.

(11) Includes 13,000 shares issuable upon the exercise of options that are currently exercisable or will become issuable pursuant to options exercisable within 60 days after March 1, 2004.

(12) Includes 28,000 shares issuable upon the exercise of options that are currently exercisable or will become issuable pursuant to options exercisable within 60 days after March 1, 2004.

(13) Includes 58,000 shares issuable upon the exercise of options that are currently exercisable or will become issuable pursuant to options exercisable within 60 days after March 1, 2004.

(14) Includes 1,054,765 shares that may be acquired within 60 days of March 1, 2004 through the exercise of options by all executive officers and directors as a group.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The information required by this item is incorporated by reference from the information contained under the caption Certain Transactions contained in the Proxy Statement.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required in this item is incorporated by reference from the information under the caption Audit Fees in the Company s Proxy Statement.

PART IV

ITEM 15. FINANCIAL STATEMENT SCHEDULES AND REPORTS ON FORM 8-K

(a)(1). *Financial Statements*

Description

(a)(2). *Financial Statement Schedules*

The following financial statement schedule should be read in conjunction with the Audited Financial Statements referred to under Item 15(a)(1) above. Financial statement schedules not included in the Form 10-K have been omitted because they are not applicable or the required information is shown in the Audited Financial Statements or Notes thereto.

(a)(3). *Listing of Exhibits*

Exhibit Number	Description	Method of Filing
3.1	Certificate of Incorporation	(2)
3.2	Bylaws of OMI, as amended	(1)
4.1	OMI 1994 Stock Option Plan	(1)
4.2	OMI Employee Incentive Stock Option Agreement	(1)
4.3	OMI Non-Incentive Stock Option Agreement	(1)
4.4	OMI Non-Incentive Stock Option Agreement	(1)
10.01	Distribution and Spin-off Agreement between OMI and Chronimed effective July 2, 1994	(3)
10.02	Sublicense Agreement regarding 4-Methylpyrazole between Chronimed and Mericon Investment Group, Inc.dated December 17, 1993	(4)
10.03	Employment Agreement between OMI and John Howell Bullion dated October 29, 1999	(7)

Exhibit Number	Description	Method of Filing
10.04	Assumption Agreement and Consent to Assignment regarding 4-Methylpyrazole between OMI and Mericon Investment Group, Inc. dated October 5, 1994	(5)
10.05	License Agreement regarding 4-Methylpyrazole between Kenneth McMartin and Mericon Investment Group, Inc. dated July 6, 1993	(6)
10.06	IRS tax qualification letter dated January 10, 1996 regarding the favorable determination of the tax status of the OMI 401(k) Savings Plan	(8)

Exhibit Number	Description	Method of Filing

Exhibit Number	Description	Method of Filing
10.07	Stock Purchase Agreement between OMI and UBS Capital II LLC dated July 23, 1998.	(9)
10.08	Common Stock Purchase Warrant between OMI and R.J. Steichen dated January 1, 1999.	(10)
10.09	Purchase Agreement and Letter of Intent between OMI and Caduceus Capital Trust, Caduceus Capital II L.P., PaineWebber Eucalyptus Fund LLC, and PaineWebber Eucalyptus Fund Ltd.	(11)
10.10	Purchase Agreement and Letter of Intent between DG LUX LACUNA APO BIOTECH FUND	(12)
10.11	Stock Purchase Agreement between OMI and UBS Capital II LLC dated August 2, 1999	(13)
10.12	Warrant to purchase shares of Series C Convertible Preferred Stock or Series D Non-Voting Preferred Stock	(14)
10.13	Warrant to purchase shares Series D Non-Voting Preferred Stock	(15)
10.14	Form of Change in Control Agreement to be entered into between the OMI and Certain Executives	(16)
10.15	License agreement for Xyrem between OMI and Celltech Pharmaceuticals plc dated October 30, 2003	(17)
10.16	Distribution and Services Agreement between OMI and Express Script Specialty Distribution Services, Inc. date July 29, 2002	(18)
23.1	Consent of Ernst & Young LLP	Filed herewith
24	Power of Attorney	(19)
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	Filed herewith
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	Filed herewith
32.1	Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	Filed herewith
32.2	Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	Filed herewith

(1) Incorporated by reference to the corresponding exhibit numbers in OMI s Registration Statement on Form 10 filed on August 31, 1994, Commission File No. 0-24760.

(2) Incorporated by reference to the corresponding exhibit number in OMI s Registration Statement on Form S-3 filed on February 5, 2002, Commission File No. 333-82222.

(3) Incorporated by reference to Exhibit 10.3 to OMI s Registration Statement on Form 10 filed on August 31, 1994, Commission File No. 0-24760.

(4) Incorporated by reference to Exhibit 10.9 to OMI s Registration Statement on Form 10 filed on August 31, 1994, Commission File No. 0-24760.

(5) Incorporated by reference to Exhibit 10.14 to OMI s Registration Statement on Form S-1 filed on March 3, 1995, Commission File No. 033-89916.

(6) Incorporated by reference to Exhibit 10.15 to OMI s Registration Statement on Form S-1 filed on March 3, 1995, Commission File No. 033-89916.

(7) Incorporated by reference to Exhibit 10.11.1 to OMI s Annual Report on Form 10-K for the year ended December 31, 1999, Commission File No. 0-24760.

(8) Incorporated by reference to Exhibit 10.36 to OMI s Registration Statement on Form S-1 filed on March 11, 1996, Commission File No. 333-02200.

(9) Incorporated by reference to Exhibit 10.48 to OMI s Quarterly Report on Form 10-Q for the quarter ended June 30, 1998, Commission File No. 0-24760.

(10) Incorporated by reference to Exhibit 10.52 to OMI s Annual Report on Form 10-K for the year ended December 31, 1998, Commission File No. 0-24760.

(11) Incorporated by reference to Exhibit 10.53 to OMI s Annual Report on Form 10-K for the year ended December 31, 1999, Commission File No. 0-24760.

(12) Incorporated by reference to Exhibit 10.54 to OMI s Annual Report on Form 10-K for the year ended December 31, 1999, Commission File No. 0-24760.

(13) Incorporated by reference to Exhibit 10.55 to OMI s Quarterly Report on Form 10-Q for the quarter ended June 30, 1999, Commission File No. 0-24760.

(14) Incorporated by reference to Exhibit 10.57 to OMI s Quarterly Report on Form 10-Q for the quarter ended June 30, 1999, Commission File No. 0-24760.

(15) Incorporated by reference to Exhibit 10.58 to OMI s Quarterly Report on Form 10-Q for the quarter ended June 30, 1999, Commission File No. 0-24760.

(16) Incorporated by reference to Exhibit 10.59 to OMI s Annual Report on Form 10-K for the year ended December 31, 1999, Commission File No. 0-24760.

(17)

Incorporated by reference to Exhibit 10.15 to OMI s Annual Report on Form 10-K/A (Amendment No. 2) for the year ended December 31, 20039, Commission File No. 0-24760.

(18) Incorporated by reference to Exhibit 10.16 to OMI s Annual Report on Form 10-K/A (Amendment No. 2) for the year ended December 31, 2003, Commission File No. 0-24760.

(19) Incorporated by reference to Exhibit 24 to OMI s Annual Report on Form 10-K for the year ended December 31, 2003, Commission File No. 0-24760.

(b). Reports on Form 8-K

Current Report on Form 8-K filed October 23, 2003 under Item 12, Disclosure of Results of Operations and Financial Condition reporting 2003 Third Quarter results and financial condition.

Current Report on Form 8-K filed October 31, 2003 under Item 5, Other Events reporting a licensing agreement with Celltech plc.

(c). Exhibits

See Item 15(a)(3) above.

(d). Financial Statement Schedules

See Item 15(a)(2) above.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Act of 1934, the registrant has duly caused this report on Form 10-K/A to be signed on its behalf by the undersigned thereunto duly authorized, in the City of Minnetonka, Minnesota, on the 20th day of July, 2004.

ORPHAN MEDICAL, INC.

By: /s/ John Howell Bullion

John Howell Bullion
Chief Executive Officer

/s/ Timothy G. McGrath

Timothy G. McGrath
Chief Financial Officer

Pursuant to the requirements of the Securities Act of 1934 this report has been signed by the following persons on behalf of the Registrant and in the capacities indicated as of July 20, 2004.

SIGNATURE	TITLE
/s/ John Howell Bullion John Howell Bullion	Chief Executive Officer (Principal Executive Officer) and a Director
* Michael Greene	Director
* Julius A. Vida	Director