

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

Form 20-F

☐ REGISTRATION STATEMENT PURSUANT TO SECTION 12 (b) or (g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the year ended **December 31, 1999**.

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____

Commission file number 0-19539

BIOCHEM PHARMA INC.

(Exact name of Registrant as specified in its charter)

Not applicable

(Translation of Registrant's name into English)

Canada

(Jurisdiction of incorporation or organization)

275 Armand-Frappier Blvd.
Laval, Québec, Canada H7V 4A7
(Address of principal executive offices)

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

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

Common Shares, without par value
(Title of Class)

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report:

101,015,590 common shares, without par value (**December 31, 1999**)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes ☒ No ☐

Indicate by check mark which financial statements item the registrant has elected to follow.

Item 17 ☒ Item 18 ☐

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(1) Pursuant to General Instruction G(b) of Form 20-F, this annual report includes the information specified in Parts I, III and IV.

(2) Pursuant to General Instruction G(c) of Form 20-F, the registrant has elected to provide the financial statements and related information specified in Item 17.

IMPORTANT NOTES

1. EXCHANGE RATE DATA

All currency amounts in this report on Form 20-F are stated in Canadian dollars, unless otherwise indicated.

The high and low exchange rates, the average exchange rate (i.e., the average of the exchange rates on the last day of each month during the period) and the period-end exchange rate of the Canadian dollar in exchange for United States dollars for each of the fiscal years in the five-year period ended December 31, 1999 based on the noon buying rate in New York City for cable transfers in foreign currencies as certified for customs purposes by the Federal Reserve Bank of New York, were as follows:

	Years ended				
	1995-12-31	1996-12-31	1997-12-31	1998-12-31	1999-12-31
High	U.S.\$0.7527	U.S.\$0.7513	U.S.\$0.7487	U.S.\$0.7105	U.S.\$0.6925
Low	0.7023	0.7235	0.6945	0.6341	0.6535
Average	0.7305	0.7332	0.7197	0.6714	0.6744
Period-End	0.7323	0.7301	0.6999	0.6504	0.6925

2. TRADEMARKS

BioChem Pharma and its logo, *CADx*, *Fluviral S/F* and *PACIS* are all trademarks of BioChem.

BioChem's discovery to treat HIV/AIDS, sold in tablets and oral solution in certain countries under the brand name 3TC and in others under the brand name Epivir, or in a tablet also containing AZT and sold under the brand name Combivir has the generic name lamivudine. Lamivudine has also been developed to treat chronic hepatitis B infection, and has the brand name Epivir-HBV Tablets and Oral Solution in the United States, Heptovir in Canada, Heptodin in China and Zeffix in most other countries. To avoid confusion herein, 3TC will be generally used to describe the product for HIV/AIDS and Zeffix will be generally used to describe the product for chronic hepatitis B. *Retrovir*, *3TC*, *Epivir*, *Combivir*, *Trizivir*, *Epivir-HBV*, *Zeffix*, *Heptovir* and *Heptodin* are trademarks of Glaxo Wellcome plc which, with its subsidiaries, is the worldwide licensee of lamivudine, including 3TC and Zeffix, subject to special arrangements for Canada, where a Glaxo Wellcome-BioChem partnership is commercializing 3TC and Zeffix.

Second Look is a trademark of Qualia Computing, Inc. and BioChem; *CliniChem Development* and its logo are trademarks of CliniChem Development Inc. *Sustiva* is a trademark of DuPont Pharmaceuticals Company; *Intron-A* is a trademark of Schering Plough International; and *Zadaxin* is a trademark of SciClone Pharmaceuticals, Inc.

3. SAFE HARBOUR

This report on Form 20-F contains projections and forward-looking statements regarding future events and the future financial performance of the Company. We wish to caution you that these statements are only our predictions and objectives. Actual events or results may differ materially. Please note in particular throughout this document where we have highlighted specific risks associated with the Company and its activities. We also refer you to the documents the Company filed from time to time with the United States Securities and Exchange Commission and the Canadian Securities Administrators, such as its material change reports, its annual report and its management proxy circular. These documents, as well as this report on Form 20-F contain important factors that could cause our actual results to differ from our current expectations and the forward-looking statements contained in this report on Form 20-F. The Company will not update the information contained in this report on Form 20-F except in the normal course of its public disclosure practices.

PART I

Item 1. DESCRIPTION OF BUSINESS

THE COMPANY

BioChem Pharma Inc. ("BioChem" or the "Company") is an international biopharmaceutical company involved in the research, development, manufacturing and marketing of innovative products for the prevention, detection and treatment of human diseases.

The Company's most significant therapeutic products, which have been developed with Glaxo Wellcome Inc., are 3TC and Zeffix. 3TC is an orally available formulation of lamivudine for the treatment of patients with HIV infection and AIDS. 3TC is currently marketed in 100 countries and achieved sales of \$1.3 billion in 1999. Zeffix is the first and only orally available treatment for chronic hepatitis B infection and for the prevention of liver graft reinfection. Zeffix was first approved outside of the Philippines and Canada in 1999. Zeffix is approved in over 40 countries and has been launched in over 25 countries. Zeffix achieved worldwide sales of \$36 million in 1999. In September 1997, the U.S. Food and Drug Administration ("FDA") authorized the marketing of Combivir, the first product to combine two antiretroviral drugs in a single tablet formulation. Each tablet of Combivir contains 3TC and AZT and can be taken twice daily, offering the advantage of reducing significantly the number of tablets a person on a 3TC/AZT based treatment regimen needs to take. This reduction simplifies the complex multi-drug treatment regimens, thus enhancing patient adherence to therapy schedules. The European Commission gave approval to market Combivir in the 15 member states of the European Union on March 18, 1998. In Canada, the Canadian Health Protection Branch ("HPB") approved Combivir on December 4, 1998.

On March 24, 1999, the FDA granted approval for expanded prescribing information regarding the use of 3TC in infants, children and adolescents. In addition, this approval included an important revision to the indication for use of 3TC in combination with any other antiretroviral agent for the treatment of HIV infection in adults and children. In December 1999, Glaxo Wellcome (Glaxo Wellcome plc and its subsidiaries are collectively referred to herein as "Glaxo Wellcome") filed regulatory submissions to the FDA, the European Medicines Evaluation Agency ("EMA") and the HPB seeking marketing approval for Trizivir. Each tablet of Trizivir contains 3TC, AZT and abacavir and can be taken twice daily. If and when approved, Trizivir will become the simplest triple combination antiretroviral therapy available with the potential to enhance patients' adherence to their therapy schedule.

On March 9, 2000, the FDA approved PACIS for sale in the U.S.. PACIS is a Bacillus Calmette-Guérin ("BCG") immunotherapeutic for the treatment of certain superficial bladder cancers, developed and manufactured by the Company. Distribution in the American market will be ensured by UroCor Inc. Since the beginning of the commercialization effort of PACIS in Canada, the brand has been able to maintain a market share of at least 30% and annual sales of approximately \$700,000. Sales revenue is expected to increase with the recent U.S. approval and future international market launches.

The Company's most advanced therapeutic product candidates are being developed principally for use in the treatment of cancers and infectious diseases. BioChem Pharma's most advanced product candidate for cancer is troxacitabine, a nucleoside analog in clinical development to treat various forms of cancer. Troxacitabine began Phase II monotherapy trials in 1999. Because anticancer agents are generally used in combination, two additional Phase I trials studying the use of troxacitabine in combination therapy with other chemotherapeutic agents also are underway.

BioChem is also engaged in the research, development, production and marketing of vaccines for human use. The Company's direct sales force is marketing a split virus influenza vaccine developed and manufactured by the Company to physicians and other healthcare providers in Canada. Canadian sales of the Company's vaccines were \$6.0 million for the fiscal year ended December 31st, 1999.

The Company's vaccine product candidates include a new cell culture-based influenza vaccine using a novel proprietary cell line and high-cell density microcarrier technology. The Company is also involved in research and development of new recombinant protein-based bacterial vaccines. One of these vaccine candidates has progressed to the clinical development stage - a *Neisseria meningitidis* vaccine is currently in Phase I. In addition, a Group B *Streptococcus* vaccine is in pre-clinical development.

The Company's strategy includes the following elements:

- continue to focus on anticancer and anti-infective therapeutics and vaccines;
- enhance and supplement internal research capabilities; and
- establish a commercial infrastructure primarily for North American markets.

Pursuant to the Company's strategy, on March 15th, 2000, the Company announced that it had completed the divestiture of its diagnostics division, BioChem ImmunoSystems Inc. ("ImmunoSystems"). ImmunoSystems' minority shareholder and a management group assumed ownership of the diagnostics business and contributed \$5 million of capital. The Company received a \$54 million debenture to be paid out of future cash flows.

Until January 1, 2000, BioChem conducted its vaccines operations through BioChem Vaccines Inc., a wholly-owned subsidiary which was at that date amalgamated with BioChem. In June 1998, BioChem established BioChem Pharma, Inc. a wholly-owned subsidiary incorporated under the laws of Delaware to operate in the U.S.. Until the sale of its diagnostics business on March 14, 2000, that business was carried out through BioChem's 91.0%-owned subsidiary, ImmunoSystems.

THERAPEUTICS

BioChem's most advanced therapeutic product candidates are currently directed at discovering innovative medicines principally in the anticancer and anti-infective areas. The Company's research and development activities are either done internally, through agreements with CliniChem Development Inc., or through strategic alliances (see "Significant Agreements").

The Company's marketing strategy in therapeutics is to commercialize its anticancer, anti-infective and related products in selected territories where there is a relatively concentrated target physician audience. The Company shares commercialization rights for 3TC and Zeffix with Glaxo Wellcome in Canada and has granted to the latter exclusive commercialization rights in the rest of the world. In the future, the Company intends to retain a larger share of marketing and other rights in additional territories. The Company's internal research and development capabilities will continue to be supplemented through collaborations, licensing, acquisition and other arrangements.

In other therapeutic areas, including pain control, where markets are broader and therefore the resources needed for the development and commercialization are greater, the Company intends to continue to enter into alliances with established multinational pharmaceutical companies. To that end, it already has established a partnership with AstraZeneca plc in the pain control area.

The following table represents BioChem Pharma's therapeutic products and research and development programs:

PRODUCT/CANDIDATE	INDICATION	DEVELOPMENT STATUS ②	COMMERCIAL RIGHTS
3TC/Epivir	HIV/AIDS	On the market	BioChem/Glaxo Wellcome
Zeffix/Epivir-HBV/ Heptovir/Heptodin	Hepatitis B infection	On the market	BioChem/Glaxo Wellcome
Combivir	HIV/AIDS	On the market	BioChem/Glaxo Wellcome
Trizivir	HIV/AIDS	In registration	BioChem/Glaxo Wellcome
PACIS	Bladder Cancer	On the market	BioChem
Troxacitabine①	Cancer	In development – Phase II	BioChem
BCH-3963	Pain control	In development – Phase II	BioChem/AstraZeneca
(-)dOTC (BCH-10618)①	HIV/AIDS	In development – preclinical	BioChem
BCH-13520①	HIV/AIDS	In development – preclinical	BioChem
Angiogenesis inhibitors ①	Cancer/Macular degeneration	In research	BioChem
Antineoplastic products	Cancer	In research	BioChem
Apoptosis	Cancer	In research	BioChem
Hepatitis B	Hepatitis B	In research	BioChem/Scriptgen
Hepatitis C	Hepatitis C	In research	BioChem
Antibacterial	Antibiotic	In research	BioChem/Microbiotix
HIV	HIV/AIDS	In research	BioChem

① Licensed by BioChem to CliniChem Development Inc.

② Indicates product development status. "Research" includes discovery, research, development of screening assays, product design, synthesis and subsequent identification of a candidate compound for clinical studies. "Preclinical" denotes efficacy, pharmacological and toxicity studies in animal models necessary to support an application to initiate human clinical testing. Human clinical trials for the Company's drugs and biological products are conducted in three phases. "Phase I" clinical trials are generally conducted in healthy volunteers to determine pharmacokinetics and safety. "Phase II" clinical trials are conducted to gain preliminary information regarding efficacy and dosing regimen and additional safety information. The final stage is "Phase III", in which studies are conducted to provide sufficient statistical data regarding safety and efficacy to support an application for marketing approval of a new drug or license of a biological product. In the case of AIDS and cancer and certain other life-threatening diseases for which there is an urgent need for treatment, the FDA may grant approval under its accelerated approval regulations, based on analysis of surrogate endpoints even when definitive information on efficacy and long-term safety is not yet available. Manufacturers of accelerated approval drugs are then required to conduct more definitive clinical endpoint studies to confirm the drug's effect on the clinical endpoints of the disease. "In registration" means a license application to market the product has been filed in one or more countries but has not yet been approved. See "Government Regulation".

The Company believes that future success will be based largely on the ability to discover truly innovative therapies responding to unmet medical needs, to rapidly move several compounds into clinical development and to successfully progress the compounds through the different development phases. To achieve its mission in this evolving industry, BioChem's strategy is to focus principally in the anticancer and anti-infective areas, to enhance internal research and development capability and to broaden a diverse external research network, involving primarily university collaborations and partnerships with companies, as well as to build a commercial organization and a portfolio of anticancer and anti-infective products for the North American market.

AIDS/HIV Infection

Market

The World Health Organization (the "WHO") estimates that, as of the end of 1999, 33.6 million people worldwide had been infected with HIV, the virus that leads to the development of AIDS. The WHO estimates that, as of the end of 1999, approximately 920,000 people were infected with HIV in the United States and 520,000 in Western Europe and in the U.S. alone more than 200,000 are unaware of their infection. In the United States, it is estimated that there are 40,000 new infections per year. Of these newly infected people, the Centers for Disease Control ("CDC") estimates that half are younger than 25 years of age and were infected sexually. As the number of new cases per year among homosexual men has decreased dramatically, the number of new infections among heterosexuals, particularly among women, has accelerated greatly. Worldwide, there were approximately 16,000 new HIV infections per day in 1999, totaling 5.8 million new infections during the year. More than 95 percent of these new infections occurred in developing countries. HIV infection and AIDS was the fourth leading cause of death worldwide in 1999 resulting in an estimated 2.3 million deaths.

3TC

The therapeutic product 3TC (lamivudine) is indicated for the treatment of HIV infection and AIDS. 3TC is one of a novel class of nucleoside analogs with a heterocyclic surrogate sugar ring discovered and synthesized by BioChem scientists which targets the HIV reverse transcriptase enzyme and interferes with HIV replication. 3TC was first approved in the United States on November 17, 1995 where it is marketed as Epivir. Approval in Canada shortly followed on December 8, 1995. The Committee on Proprietary Medicinal Products ("CPMP") and the EMEA on August 8, 1996 gave full approval under exceptional circumstances for the 15 member states of the European Union. On September 29, 1997, the FDA authorized the marketing of Combivir, the first product to combine two antiretroviral drugs in a single tablet formulation. Each tablet of Combivir contains 3TC and AZT and can be taken twice daily, offering the advantage of reducing significantly the number of tablets a person on a 3TC/AZT based treatment regimen needs to take. This reduction is simplifying the complex multi-drug treatment regimens, thus enhancing patient adherence to therapy schedules. The European Commission gave approval to market Combivir in the 15 member states of the European Union on March 18, 1998. In Canada, the HPB approved Combivir on December 4, 1998.

The results from four pivotal trials and from the clinical endpoint study of 3TC demonstrate the safety and efficacy of 3TC, and have successfully established 3TC as the cornerstone of combination therapy in HIV infection. In fact, those positive results together with 3TC's ease of administration (one tablet twice a day, independently of food intake) helped pave the way to combine antiretrovirals for maximum clinical benefit and compliance. They also led to 3TC being used in the majority of triple and quadruple combination therapies with other nucleoside analogs, protease inhibitors and non-nucleoside reverse transcriptase inhibitors ("NNRTI").

3TC is available for sale and marketing in approximately 100 countries and is the most widely prescribed medication for HIV and AIDS in the world. Combivir is available for sale and marketing in approximately 78 countries. On March 24, 1999, the U.S. FDA granted approval for expanded prescribing information on the use of 3TC in infants, children and adolescents. In addition, this approval included an important revision to the indication for use of 3TC in combination with any other antiretroviral agent for the treatment of HIV infection in adults and children. Since its first marketing approval in 1995, 3TC has been used safely in combination with many other antiretroviral agents, and was part of the pivotal clinical trials used as part of the basis for approval of four other HIV antiretroviral agents: the nucleoside analog abacavir, the NNRTI efavirenz, and the protease inhibitors indinavir and nelfinavir.

Resistance to drugs is one of the most significant challenges in HIV/AIDS therapy and viral resistance testing is used increasingly by physicians to detect mutations and help decide whether a patient should switch to a new treatment combination. Data presented at the Third International Workshop on HIV Drug Resistance and Treatment Strategies in San Diego on June 24, 1999 demonstrates that combination therapies which contain 3TC remain potent and continue to suppress HIV even in presence of 3TC resistant mutants.

In December 1999, Glaxo Wellcome filed regulatory submissions to the FDA, EMEA and HPB, seeking marketing approval for Trizivir. If and when approved, Trizivir will be the first product to combine three antiretroviral drugs in a single tablet formulation. Each tablet of Trizivir contains 3TC, AZT and abacavir and can be taken twice daily. If and when approved, Trizivir will become the simplest triple combination antiretroviral therapy available with the potential to enhance patients' adherence to their therapy schedule. Glaxo Wellcome is also currently developing a once-a-day formulation of 3TC.

BioChem has licensed to Glaxo Wellcome the worldwide rights, with the exception of Canada, to develop, manufacture and sell 3TC. In Canada, 3TC is sold by BioChem in partnership with Glaxo Wellcome.

Hepatitis B

Market

HBV is the causative agent of both the acute and chronic forms of hepatitis B, a liver disease which is a major cause of morbidity and mortality throughout the world. Data from the WHO indicate that over 2 billion people worldwide have been, at some point, infected with hepatitis B virus. Of these 2 billion, there are over 350 million people chronically infected (WHO 1996), 75% of whom are found in the Asia-Pacific region. There are some 25 million chronic carriers of HBV in industrialized countries with developed economies and healthcare programs. These chronic carriers are at high risk of developing chronic active hepatitis, which kills up to 2 million persons per year. The WHO estimated that as many as 25-35% of individuals who become chronic carriers will eventually die prematurely as a result of their hepatitis B from cirrhosis or hepatocellular carcinoma (liver cancer) as a result of their hepatitis B infections. Vaccines to prevent hepatitis B are currently available; however, they have not been shown to be effective in those already infected with the virus. Despite the availability of these vaccines for more than a decade, the incidence of HBV infection in the United States has increased.

Hepatitis B virus is estimated to be approximately 100 times more infectious than the HIV virus. The main routes of transmission in North America are: parenterally (through the use of needles) and via sexual contact. The main routes of transmission in areas of high prevalence (including the Asia-Pacific region) are mostly perinatally (from mother to baby during the perinatal period) or from person to person particularly during early childhood.

Alpha interferon was previously the only widely approved treatment for patients with chronic active hepatitis B. It is administered by injection, is only successful in controlling the virus in a minority of patients and is associated with undesirable side-effects such as flu-like symptoms. Alpha interferon has poor efficacy in the majority of chronic hepatitis B patients who are located in the Asia-Pacific region and who could be presumed to have acquired the disease perinatally or at a young age. This usually leads to an immune tolerance state of infection where an immunostimulant such as alpha interferon works poorly. The Company believes a significant market opportunity exists for an effective and safe oral antiviral therapy against chronic hepatitis B, especially for a product with proven efficacy in immune tolerant chronic hepatitis B patients, such as the vast majority in the Asia-Pacific region.

Zeffix

A different dosage regimen of lamivudine (referred to as Zeffix, but also available as Epivir-HBV in the United States, as Heptovir in Canada and Heptodin in China) has been developed with Glaxo Wellcome as an oral treatment for chronic hepatitis B infection and for the prevention of liver graft reinfection. Like 3TC with HIV, Zeffix targets the reverse transcriptase enzyme of HBV and appears to interfere with the transcription of viral RNA to viral DNA, a process necessary for HBV replication.

Glaxo Wellcome has completed numerous Phase III clinical trials of Zeffix as a treatment for chronic hepatitis B infection. Clinical trial sites included countries in the Asia/Pacific region, Europe, Australia, South Africa, Canada and the United States. Most of these trials were for a duration of one year of treatment with follow-up periods ranging from three months to six months. A longer trial for up to five years of Zeffix treatment is ongoing in Asia and the four year results were recently disclosed.

Results from several clinical trials to date, showed that:

- 1) Zeffix therapy after one year of treatment in a non-Asian trial results in similar seroconversion rates as a standard course of interferon (Intron A) and a course of Zeffix and interferon combined. Seroconversion is an immune response that results in a sustained reduction in levels of virus in the body and is thought to be a predictor of long lasting disease remission. Additionally, in comparison to interferon treated patients, a greater number of patients treated with Zeffix showed improvement in liver disease regardless of whether or not seroconversion occurred. Patients taking Zeffix also suffered from fewer side effects than either of the other two groups treated with interferon.

- 2) Asian patients have been found to respond equally well to Zeffix as Caucasians. In contrast to Caucasians, who generally acquire the infection as adults, Asians acquire the infection perinatally or early in childhood leading to an immune tolerance status and low ALT (alanine aminotransferase-a liver enzyme) levels resulting in poor response to alpha-interferon therapy.
- 3) The efficacy of Zeffix is cumulative with duration of treatment and showed a continued increase in the incidence of seroconversion, reduction in levels of viral replication and normalization of levels of ALT as well as liver histology improvements. In fact, four-year data from an Asian trial show that the proportion of patients who seroconvert reaches 47% at year four (vs. 40% at year three, 29% at year two and 22% at year one). In addition prolonged Zeffix therapy is associated with continuous reduced progression and improvement of liver inflammation and fibrosis. Also, after four years, 64% of patients had normal ALT levels. 73% of patients with active liver disease (ALT of twice the upper limit of the normal level) successfully seroconverted at year four.
- 4) On extended Zeffix treatment, mutant virus showing changes in the YMDD locus of the virus polymerase emerges in some patients. Patients from this Asian trial who had a YMDD mutated form of the hepatitis B virus for up to three years continued to have reduced levels of ALT and HBV, suggesting that despite the presence of a mutated form of the virus, patients may still obtain benefits from Zeffix. In addition, seroconversion continues to occur and histological improvements have been observed in the majority of patients despite the presence of the YMDD variant.
- 5) Zeffix significantly improves liver inflammation, reduces progression of fibrosis and improves fibrosis compared to placebo. Trials in North America, Europe and Asia demonstrated similar histological benefits after one year of therapy. An integrated analysis of three trials showed that in comparison to placebo and alpha-interferon, Zeffix can reduce significantly the progression to cirrhosis and consequently has the potential of reducing the mortality and morbidity associated with the complication of cirrhosis.
- 6) Zeffix monotherapy is effective in a specific group of patients with a form of the disease known as “pre-core mutant hepatitis B”. This variant of the disease is particularly prevalent in Southern Europe, the Middle East and some Asian countries, and responds very poorly to alpha-interferon treatment. Data showed Zeffix to be as effective in this more difficult to treat form of hepatitis B as in the more common type.
- 7) Response is sustained after stopping Zeffix therapy in patients who had achieved seroconversion. When treatment was discontinued after one year and patients were monitored for almost 2 years without treatment, it was found that virologic responses achieved during the year of therapy with Zeffix were usually sustained in the vast majority of patients (86%) who had achieved loss of HBeAg (Hepatitis B e antigen – a blood marker of ongoing viral replication) by the end of therapy. In addition, after this two-year follow-up, 21% of patients who lost HBeAg have also achieved HBsAg (Hepatitis B surface antigen) seroconversion, an indicator of a probable cure of chronic hepatitis B.
- 8) The overall safety profile of Zeffix is excellent with side effects similar to placebo during the one year Phase III treatment period. Analysis of controlled post treatment data indicate a modest increase in post treatment ALT elevations in the Zeffix group; however, there was no difference in clinically severe post treatment events in the Zeffix and placebo groups.

Overall these data support the broad utility of Zeffix as a safe and effective drug for treating a wide range of patients with chronic hepatitis B, including Asian patients, patients infected with pre-core mutant hepatitis B virus and the subgroup of patients who eventually develop the variant HBV strains associated with Zeffix resistance in laboratory assays.

First approved in the Philippines and in Canada in August and November 1998 respectively, Zeffix has been approved and launched through 1999 in the U.S., Hong Kong, Singapore, China, South Korea, some European Union countries and Taiwan. In addition, as at February 29, 2000, Zeffix had been approved in 30 other countries and launched in 16 of those.

Pursuant to agreements entered into with Glaxo Wellcome, BioChem has licensed to Glaxo Wellcome the worldwide rights, with the exception of Canada, to develop, manufacture and sell Zeffix. In Canada, Zeffix is sold by BioChem in partnership with Glaxo Wellcome.

Bladder Cancer

PACIS

Bladder cancer is the sixth most common cancer in the U.S. according to the American Cancer Society. While progress has been made in the prevention and treatment of bladder cancer, over 54,000 Americans will be diagnosed with transitional cell carcinoma of the bladder and more than 12,000 people with recurrent or acute disease will die from it.

BioChem has developed a BCG (Bacillus Calmette-Guérin) immunotherapeutic that has demonstrated efficacy in the treatment of superficial bladder cancers. The American Urology Association recommends the use of BCG immunotherapeutics as first line therapy for superficial bladder cancer.

BioChem Pharma's BCG product is marketed, through exclusive distributorships, under the trademark PACIS and as at December 31, 1999, was registered in Canada, Argentina and the Philippines. On March 9, 2000, the U.S. Food and Drug Administration (FDA) approved PACIS for sale in the U.S. as a first line treatment for carcinoma *in situ* of the urinary bladder. BioChem also expects PACIS to be registered in Spain during the year 2000. Many exclusive distribution agreements have been concluded with leading organizations in the field of urology, some of the most significant to date have been: UroCor Inc. for distribution of PACIS in the United States market and Grupo Ferrer S.A. for distribution of PACIS in the Spanish market.

Pain Control

Market

The pain control or pain management market is divided into the acute (short-term) and chronic (longer-term, persistent) pain market and along the lines of mild, moderate and severe pain. The analgesic market is divided into the following categories: non-steroidal anti-inflammatories ("NSAID"), narcotics and non-narcotics. The injectable / intravenous forms of these analgesics are generally used for pain management in the acute setting, such as post-operative or trauma pain. The chronic pain control pharmaceutical market, such as the treatment of cancer pain and arthritis pain, calls for drugs that will provide longer term duration, and whose delivery form will not require hospital or professional supervision to administer. Such potent, well-tolerated, chronically used, easily delivered pain control compounds would provide safe and effective relief in an ambulatory setting, i.e. one that permits sufferers to be mobile and to have a quality of life.

Chronic pain (chronic headache, low back pain, cancer pain, arthritis pain, other disorders, such as neuralgias and neuropathies) has been described as one of the most costly health problems in America. It is estimated that the annual direct and indirect cost is close to U.S. \$50 billion.

Cancer pain: the majority of intermediate to advanced stage cancer patients suffer moderate to severe pain. Clinical studies of pain suggest that one-third of patients currently receiving cancer treatment experience moderate to severe pain, and in patients with advanced disease this increases to 60 to 90%. Statistics on terminal cancer from the WHO suggest that there are 4 million cancer pain sufferers at any given time.

Arthritis pain, termed the "great crippler", affects 20 million Americans and is estimated to cost U.S.\$4 billion annually: a result of lost income, lost productivity and direct health care expenses combined.

Many chronic pain conditions, such as arthritis and cancer pain, affect older adults. With the world population generally living longer, the incidence of cancer and arthritis-associated pain is expected to increase, as is the growing demand for potent and safe novel agents to manage moderate to severe pain.

BCH-3963

Further to an agreement signed between BioChem and AstraZeneca, AstraZeneca is presently developing a peripherally acting μ -opioid receptor agonist, BCH-3963, discovered by BioChem and intended for the treatment of acute and chronic pain.

Opioids such as morphine are the cornerstone in clinical pain treatment in spite of the development of tolerance and their undesirable side effects due to their action on the central nervous system ("CNS"). The traditionally held view is that opioid analgesia is mediated exclusively within the CNS. However, recent research has shown that analgesia at the site of inflammation can be initiated by the activation of opioid receptors located outside the CNS. Particularly, it has been demonstrated that the agonists with a

preference for μ -receptors are generally the most potent. With that rationale, BioChem scientists discovered BCH-3963 which is highly selective for the μ -opioid receptor and which does not penetrate the CNS. In animal models, BCH-3963 has exhibited potency similar to morphine but without the dependence, tolerance or other CNS associated side effects.

AstraZeneca filed a first Investigational New Drug ("IND") in Sweden in 1998 and completed four Phase I studies with an injectable (I.V.) formulation. The results of these studies showed that BCH-3963 was well tolerated with no CNS side effects or respiratory depression and it was 10 times more potent than morphine as measured by a surrogate marker. AstraZeneca initiated in 1999 Phase II clinical trials to evaluate the analgesic potential of BCH-3963.

In general, opioids and morphine, in particular, remain as the most common treatment for pain following surgery but in recent years, parenteral non-steroidal anti-inflammatory drugs ("NSAIDs"), notably ketorolac and diclofenac, have been shown to be effective analgesics when administered after surgery. The major benefits of NSAIDs are related to the ability of these agents to provide analgesia without the major drawback of opioids. However, NSAIDs may not provide sufficient efficacy and the well-known gastrointestinal toxicity and risk for renal failure limit their use.

Therefore, there is a large unmet need in the management of acute pain following surgery and BCH-3963 has the potential to become an important drug in that setting. The results of the Phase II studies should be available in 2000 and the pivotal Phase III program with the injectable formulation in the management of post-operative pain is planned to be initiated towards the end of 2000.

AstraZeneca is working on various potential non-parenteral formulations that would be suitable for administration in the management of chronic pain such as osteoarthritis and cancer pain.

Antiviral Research Projects

Hepatitis C

Viral hepatitis refers to a spectrum of diseases caused by one of eight identified hepatotropic viruses that affect humans. Most important in terms of morbidity and cost to healthcare systems, are hepatitis B and hepatitis C viruses (HCV) collectively affecting over 500 million people worldwide. Causes of mortality and morbidity are related to liver cirrhosis, disability, portal hypertension, and hepatocellular carcinoma. HBV results in chronic disease in only 5-10% of the infected individuals, in contrast, HCV infection leads to chronic infection in 85% of the cases. Prevalence of HCV in the western world is between 1.5% and 2% of the total population and according to the U.S. Center for Disease Control, 10,000 people died as a result of HCV related complications in 1996 in the U.S. Currently, there is an estimated four million chronically infected individuals in the U.S. alone. Therefore, HCV infection poses a major health risk. The high mutation rate of the HCV makes vaccine development extremely challenging. Consequently, the eradication of HCV through the intervention by effective therapeutic agents is needed to alleviate this major potential health hazard.

The genome of HCV encodes for both structural and non-structural proteins. The structural proteins include two envelope glycoproteins and an RNA-binding nucleocapsid. The non-structural proteins include NS3 protease, NS3 helicase and a NS5B polymerase. It has been shown that these enzymes are essential for viral replication, hence, inhibition of these enzymes should lead to drug molecules capable of interfering with the HCV replication. BioChem's strategy focuses on devising potent and selective inhibitors of these enzymes in order to select the most promising approach for inhibition of viral replication. Structure-based design approaches as well as high throughput screening ("HTS") campaigns have been initiated. One of the major challenges in identification and development of HCV inhibitors is lack of effective antiviral assay systems (cell-based assays and/or animal models) to measure HCV replication. However, recently reported cell-based subgenomic assays may address the need of assessing the viability of HCV protease, helicase and polymerase inhibitors.

The current approved therapy (interferon + ribavirin) for HCV related chronic hepatitis results in sustained eradication of viral infection in less than 50% of patients. Although the current treatment is effective, it still only gives less than 50% chance of virus eradication, and the response rate is less with genotypes most commonly found in the western countries. Moreover, current HCV treatment is not cost effective and has significant side effects. Hence, while the current therapy is proven to be partly beneficial, clearly there is a need for antiviral drugs that target HCV directly and it is generally believed that agents blocking key enzymes will be more effective and less prone to side effects. The market potential for direct HCV inhibitors is substantial. It is believed such products, if successfully developed, could be used as a) antiviral agents for HCV related disorders as a monotherapy, b) in combination with antiviral inhibitors and c) in combination with existing treatment (interferon + ribavirin).

HIV

Currently approved anti-HIV drugs target only two HIV enzymes namely the reverse transcriptase and the protease. There is a need to discover and develop compounds which will interfere with other HIV targets involved in the virus replication.

In that regard, during 1999 BioChem developed HTS assays for the RNaseH domain of HIV reverse transcriptase and for the HIV gag protein interaction with cellular cyclophilin. HTS campaigns using these assays will be conducted through 2000.

HBV

Screening of the BioChem nucleoside and nucleotide analog library using a cell-based assay to identify potent and selective inhibitors of HBV is currently ongoing. In addition, high throughput screening was conducted at Scriptgen Pharmaceuticals, Inc. Evaluation of the anti-HBV activity in cell-based assay of Scriptgen's most attractive hits will be conducted at BioChem in 2000.

Cancer Research Projects

Antineoplastic Products

Antineoplastic nucleosides

Most antimitotic nucleosides used in cancer chemotherapy are generally poorly selective towards proliferating normal versus tumor cells. Compounding this problem is the incidence of *de novo* or tumor induced resistance towards these agents which leads to patient death. In order to address these issues BioChem has initiated a research program aimed at the discovery of a novel series of antineoplastic nucleosides. This research has led to the discovery of BCH-1868 a nucleoside analog that belongs to a structural class that is unprecedented for cancer therapy. The structural novelty of this compound and the fact that it possesses *in vitro* antitumor activity against tumor cell lines which are normally resistant towards known cytosine anticancer nucleoside analogs such as Ara-C, gemcitabine, and troxacitabine suggest that this compound may operate via a novel mechanism of action.

BCH-1868 showed significantly good antitumor activity *in vivo* at a tolerated dosage against human renal cell carcinoma xenografted in nude mice. Since this compound was not found to inhibit DNA polymerase α or β , it is believed that it behaves differently from known antineoplastic nucleosides. Further mechanistic and *in vivo* antitumor studies are ongoing to unveil the full potential of this new series for anticancer therapy. The design and synthesis of various analogs of BCH-1868 is also underway in order to develop a structure activity relationship to optimize the properties with respect to antitumor potency, cellular uptake, and *in vivo* safety profile. The objective is to select BCH-1868 or a related analog for preclinical development by year's end.

BioChem believes that this novel class of compounds offers significant potential for the development of novel anticancer chemotherapeutic agents.

Antineoplastic macrocyclic naturally-derived products

A novel class of marine macrocyclic natural products has been found to possess potent anticancer activity *in vitro*. Since representative examples cannot be obtained in sufficiently large quantities from natural sources, BioChem's first goal has been to elaborate a synthetic route for compound scale up in order to conduct *in vivo* anticancer studies. The Company's second goal has been to design simplified analogs based on this novel series.

BioChem's current progress includes the development of synthetic methodologies for the preparation of the macrocyclic framework. Structurally simpler derivatives have been prepared and tested *in vitro*. Amongst these, BCH-16864 was identified to be potent against certain tumor cell lines.

This project is at an early research stage.

Apoptosis

Apoptosis is a natural form of cell death that occurs in an orderly fashion during the normal development and maintenance of healthy tissues and organs. Cell death is triggered by the activation of an internally encoded suicide program as a result of either extrinsic or intrinsic signals. In cancer, the natural cell-death mechanism appears to be suppressed. An imbalance between the rates of cellular proliferation and apoptosis results in cellular immortality and uncontrolled growth of cancer cells.

A collaboration was entered into on July 31st, 1997 between ImmunoGen Inc.'s subsidiary Apoptosis Technology, Inc. (ATI), and BioChem for the discovery and development of novel anticancer therapeutics using ATI's proprietary screens based on a set of different proteins involved in the apoptosis process. The goal of the program is to identify small molecules which will restore the sensitivity of tumor cells towards apoptosis using different proteins involved in apoptosis as targets. Currently, the Company focuses its efforts mainly on insulin-like growth factor receptor.

IGF-1 (Insulin-like Growth Factor) and its receptor ("IGF-1R") have been identified to play an important role in cell growth and survival. IGF-1 inhibits apoptosis induced by several different stimuli, and the IGF-1R is required to maintain a transformed phenotype in tumor cells. This target is well validated and antisense or antibody towards the IGF-1R have been shown to cause tumor regression in nude mice. Furthermore, cells that lack the IGF-1R cannot be transformed by various oncogenes. An important downstream effector of IGF-1R signaling is the protein kinase AKT. It is well documented that AKT activity is required for the survival function of the IGF-1R. Recently, it was reported that AKT was directly phosphorylating Bad, a pro-apoptotic Bcl-2 family member. This discovery has linked the IGF-1R signaling pathway with the Bcl-2 death pathway. BioChem is thus running high throughput screens with the goal of discovering small molecules which will antagonize IGF-1R signalling.

Antibiotics

There is a rapidly growing crisis in the clinical management of life-threatening infectious disease caused by multi-antibiotic resistant strains of pathogenic bacteria. Solving this problem will depend, in part, on the development of chemotherapeutic agents which selectively attack new bacterial targets. Such targets include enzymes that are essential for the replication of the bacterial DNA.

A collaboration was entered into on December 6, 1999 between Microbiotix Inc. and BioChem to further exploit this approach. The goal of the collaboration is to identify and optimize inhibitors of enzymes that are essential for the replication of bacterial DNA. Through this collaborative effort, BioChem expects to be in a position to rapidly select a compound with the desired characteristics to be progressed into the pre-clinical development stage.

VACCINES

BioChem is engaged in the research, development, production and marketing of vaccines for human use. The Company currently manufactures and markets in Canada a split influenza virus vaccine. The Company also distributes, in the province of Québec, a number of vaccines produced by other companies. In 1997, the Company also started to export its split influenza vaccine to Argentina following the signing of a distribution agreement with Argent C. Comercio Internacional S.A.

The Company has a new vaccine production center in Ste-Foy in the Québec City area. This center has an overall area of approximately 118,000 square feet and houses production, quality-control laboratories and warehousing as well as administrative offices. Commercial vaccine production in Ste-Foy started in 1998.

The vaccines subsidiary, formerly operating as BioChem Vaccines Inc. was fully integrated and consolidated into BioChem on January 1, 2000.

BioChem recently initiated new vaccine development operations in the U.S.. This development unit was created in order to develop the Company's current and future vaccine pipeline. It began operations in October 1998 in Northborough, Massachusetts, in a 62,000-square-foot facility. The facility houses process research and development, analytical research and development, preparation of clinical lots, clinical development, regulatory affairs, project planning and management, and administration. The launch of these operations is part of BioChem's overall strategy to take a larger role in downstream development activities of its products and to increase BioChem's involvement and presence in key markets, such as the U.S..

The following table presents the pipeline of vaccine products of BioChem:

PRODUCT	INDICATION/POTENTIAL APPLICATIONS	DEVELOPMENT STATUS ②	COMMERCIAL RIGHTS
Fluviral S/F	Influenza	On the market	BioChem
Injectable influenza vaccine derived from cell culture	Influenza	Phase I	BioChem/SmithKline Beecham
Nasal influenza vaccine derived from cell culture	Influenza	Phase I	BioChem/SmithKline Beecham
<i>Neisseria meningitidis</i> vaccine①	Meningitis, septicemia	Phase I	BioChem
Group B <i>Streptococcus</i> vaccine①	Neonatal sepsis, meningitis	Preclinical development	BioChem
<i>Streptococcus pneumoniae</i> vaccine①	Pneumonia, meningitis, otitis media	Research	BioChem
<i>Haemophilus influenzae</i> non-typeable vaccine①	Acute respiratory infections, chronic bronchitis, otitis media	Research	BioChem
<i>Chlamydia pneumoniae</i> vaccine①	Atherosclerosis, respiratory infections	Research	BioChem

① Licensed by BioChem to CliniChem Development Inc.

② Indicates product development status. Please see note ② on page 5 for further explanations.

Injectable and nasal cell culture-based influenza vaccines

BioChem has developed a new cell culture-based influenza vaccine using a novel proprietary cell line and high-cell-density microcarrier technology. BioChem believes that this manufacturing technology will enable a more profitable production process and better flexibility in the case of increased demand for an influenza vaccine, which would be required during a pandemic. BioChem completed a Phase I clinical trial in April 1997 in Canada of a vaccine produced with the cell culture process. The results of this trial showed that the safety and immunogenicity of the new vaccine were equivalent to those of the conventional egg-derived vaccine. BioChem began a Phase II clinical trial program in Canada in November 1997 that included three trials with 1,000 volunteers. The objective of these trials was to compare the immunogenicity and safety of the new vaccine with the Company's commercially available egg-derived vaccine in three different patient populations: young adults, elderlies, and children. The results of these studies demonstrated in all three populations that this novel vaccine was as safe and immunogenic as the conventional vaccine for all three viral strains.

BioChem and SmithKline Beecham plc ("SB") finalized in December 1998 the terms and conditions of their previously announced alliance covering BioChem's cell culture technology for influenza vaccine and a nasal delivery technology named SMBV from Biovector Therapeutics S.A.. BioChem and SB are developing two technologies: a new way of producing the vaccine antigen using cell culture and an intranasal delivery of influenza vaccine technology using Biovector's SMBV and/or SB nasal technologies. The technologies were transferred from BioChem to SB during 1999, and SB now conducts all technical and clinical development.

Recombinant protein bacterial vaccines

Through a research collaboration with the Vaccine Research Unit of the Laval University Hospital Research Center, the Company is involved in research and development of new recombinant protein-based bacterial vaccines. Specific proteins have been identified as immunogens for potential bacterial vaccine development. Two of these have progressed to the development stage; a *Neisseria meningitidis* vaccine is currently in Phase I whereas a Group B *Streptococcus* vaccine is in preclinical development. CliniChem is pursuing this program under agreements with BioChem.

COMPUTER-ASSISTED DETECTION

In July 1998, BioChem began investing in a new technology platform developed by Qualia Computing Inc. ("Qualia") a privately held U.S. medical computer science company. BioChem obtained exclusive rights to commercialize any life science product developed from this platform. The Qualia technology platform is a cognitive system that utilizes artificial intelligence, artificial neural networks and advanced information processing technologies to solve complex problems in the life science area. BioChem formed a new company, CADx Medical Systems Inc. (CADx) in July of 1999 to develop the technology into products and to commercialize the products on a worldwide basis. CADx will develop products that focus on the clinical and industrial applications of this technology. The first commercial product is Second Look film, a computer-assisted detection system for mammography designed to assist the radiologist in the earlier diagnosis of breast cancer. The development of this system is being pursued by CliniChem Development Inc. under agreement with BioChem.

In addition, BioChem has options to other medical applications of this technology platform. For example, potential applications of this technology platform currently being investigated include drug design and genomics.

DIAGNOSTICS

In January 1999, BioChem reached a decision to withdraw from its diagnostics business, BioChem ImmunoSystems Inc. ("ImmunoSystems"), in order to concentrate its activities in the fields of therapeutics and vaccine products. As a first step, the Company disposed in July 1999 of the hematology operations of its diagnostics subsidiary. On March 15, 2000, the Company announced that it divested of the remaining operations of its diagnostics division. Under the terms of the agreement, ImmunoSystems' minority shareholder and a management-led group assumed ownership of the diagnostics business and injected \$5 million of new working capital. The Company received a \$54 million debenture to be paid out of future cash flows.

ImmunoSystems develops, manufactures and markets reagents and instrument systems primarily for the immunology, endocrinology and hematology segments of the diagnostic market. Its manufacturing facilities are located in the United States, Italy and Canada. ImmunoSystems has direct marketing operations in the United States, Germany, Italy, France, Argentina, Japan and Canada, and also sells its products through a complementary worldwide distributor network.

INVESTMENTS

NAVA

As of December 31, 1999, BioChem held approximately 32% of the outstanding common shares and 50% of the outstanding convertible preferred shares of North American Vaccine, Inc. ("NAVA"), a publicly traded biotechnology company listed on the American Stock Exchange. The Company shares control of NAVA pursuant to the terms of a shareholders' agreement. NAVA is engaged in the research, development and production of vaccines for the prevention of infectious diseases in children and adults.

On November 18, 1999, the Company announced that it had entered into an agreement with Baxter International Inc. to vote in favor of the acquisition by Baxter of all of the outstanding shares of NAVA. Pursuant to the agreement, Baxter has agreed to exchange each share of NAVA's common stock for an amount of Baxter common stock and cash having a value of \$U.S.7.00 per share, based on an average market price of Baxter's shares for a period prior to closing.

On April 17, 2000, the Company entered into amending agreements with Baxter and NAVA, among others, to allow for a later than expected closing date, to provide for an adjustment in the purchase price and to secure financing of NAVA's working capital requirements until closing. By these amendments, the transaction is to close by June 30, 2000 instead of May 31st and the offer has been changed to U.S.\$6.73 per NAVA share from U.S.\$7.00 in the original agreement. BioChem has made a U.S.\$40 million working capital facility available to NAVA. This loan carries an annual interest rate of 15% and is secured by NAVA assets including meningitis C vaccine inventories and certain intellectual property. It is repayable in full plus a 25% premium on June 30, 2000 or upon a change of control of NAVA, whichever occurs first.

GeneChem

In March 1997, BioChem agreed to make an investment of \$30 million in GeneChem Technologies Venture Fund L.P., a venture capital fund sponsored by the Company's newly created subsidiary, GeneChem Financial Corporation. This \$100 million fund invests in advanced academic research projects and early-stage private or public companies in the area of genomics and related technologies for human application. The Company's partners in this fund are a select group of financial investors.

SIGNIFICANT AGREEMENTS

The Company develops products both independently and in collaboration with established pharmaceutical companies or other suitable partners. Collaborative partners may provide financial resources, research and development and manufacturing capabilities, and sales and marketing infrastructure, to aid in the commercialization of the Company's potential products. Presented below is a brief description of BioChem's most significant collaborative agreements.

Glaxo Wellcome

By an agreement dated January 31, 1990 and amended as of November 20, 1995, the Company licensed to Glaxo Wellcome, the worldwide rights, with the exception of Canada, to develop, manufacture and sell the nucleoside analog lamivudine marketed as 3TC and Zeffix (3TC and Zeffix are referred to herein as "lamivudine "). A partnership exists between Glaxo Wellcome's Canadian subsidiary, Glaxo Wellcome Inc., and the Company to supply, market and sell lamivudine in Canada. Glaxo Wellcome has agreed to manufacture all the required lamivudine to be supplied in Canada by the partnership.

In consideration for the grant of such rights, Glaxo Wellcome agreed to undertake and fund the development of lamivudine and to pay the Company a royalty on sales of lamivudine. In addition, it was agreed that milestone payments would be made to the Company in installments as Glaxo Wellcome progressed in the development and approval process. The amount of relevant patent prosecution costs and 50% of milestone payments are deductible from any royalties payable to the Company by Glaxo Wellcome. The milestone payments and its related deductions from royalties have been completed. The amount of certain contractual costs and certain litigation costs may be deducted from royalties payable to the Company by Glaxo Wellcome. If Glaxo Wellcome terminates the license agreements upon certain events of default by the Company, Glaxo Wellcome will retain a non-exclusive, paid-up license from the Company to make, have made, use and sell lamivudine worldwide.

SmithKline Beecham plc

On December 3, 1998, BioChem concluded an alliance with SmithKline Beecham plc ("SB") for the worldwide development, manufacturing and marketing of BioChem's cell-culture influenza vaccines. Under the terms of the agreement, after a period of joint development funded by both parties, BioChem and SB will collaborate to market the products in the United States, while in Europe and the rest of the world, SB will be exclusively responsible for marketing. In addition, SB will be responsible for manufacturing for markets throughout the world except Canada. BioChem will benefit from the sales of the vaccines in the United States and the rest of the world, excluding Canada, in accordance with a pre-determined formula. In Canada, BioChem will retain all exclusive rights to the vaccines, including production and marketing. The agreement also calls for BioChem to receive up-front and milestone payments from SB.

AstraZeneca plc

On August 31, 1992, AstraZeneca plc formerly known as Astra AB of Sweden ("Astra") and the Company entered into a series of agreements (the "Astra Agreements") providing for the research development and commercialization of a new class of analgesic compounds for the control of pain. Pursuant to the Astra Agreements, BioChem transferred and assigned its rights to the relevant proprietary technology to Astra and retained a right to re-acquire the Canadian rights in exchange for the payment of royalties to Astra. In addition, a collaborative research agreement and a supply agreement provide for Astra and the Company to jointly research the field of opioid peptides. Astra will retain commercial rights worldwide except for Canada. In consideration for the grant of such rights to Astra, Astra made an upfront payment, agreed to fund research and development, to make milestone payments to BioChem and to pay BioChem a royalty on future product sales. Astra may, in its sole discretion, terminate the Astra Agreements. If Astra discontinues development of products or chooses not to develop products under the Astra agreements or terminates the Astra agreements, then BioChem has the option to reacquire the relevant technology and intellectual property rights subject to certain royalty obligations to Astra.

CliniChem

On February 9, 1998, the Company announced that it had filed a registration statement with the United States Securities and Exchange Commission, and a corresponding prospectus with Canadian Securities Administrators on behalf of then newly-formed CliniChem Development Inc. ("CliniChem") relating to the distribution, by way of dividend-in-kind, of Class A Common Shares of CliniChem to the Company's shareholders.

On June 10, 1998, BioChem announced a special distribution of the Class A Common Shares of CliniChem by way of a dividend-in-kind to the shareholders of BioChem. Holders of record of BioChem's Common Shares on June 22, 1998 received on June 26, 1998, one CliniChem Class A Common Share for every 40 Common Shares of BioChem then owned. This dividend-in-kind is also the only dividend paid by BioChem during the preceding five financial years.

CliniChem was formed by the Company for the purpose of conducting the clinical development of certain of its therapeutic and vaccine products with a goal of commercializing such products. From the date of the distribution, CliniChem is to continue the development of a number of therapeutic and vaccine candidates initially discovered and, as the case may be, developed by BioChem. Such activities have been contracted by CliniChem to BioChem.

BioChem, prior to the distribution, contributed \$150 million to CliniChem as a capital contribution. At the time of the capital contribution, BioChem recorded an investment in CliniChem of \$150 million. Under Canadian generally accepted accounting principles ("GAAP"), BioChem has charged the carrying value of the distribution to retained earnings on the date of the declaration of the distribution. Under U.S. GAAP, BioChem has charged the fair market value of the distribution \$23,931,000 to retained earnings and has expensed the excess of the carrying value of its investment in CliniChem Class A Common Shares over the fair market value of these shares. The fair market value of the CliniChem Class A Common Shares was determined by BioChem based on their closing price on relevant stock exchanges on the distribution date. This difference between the Canadian and U.S. GAAP treatment of the distribution has been disclosed in a reconciling note to BioChem's financial statements. BioChem recognized as revenue the payments from CliniChem under a Research and Development Agreement between the parties. The research and development costs incurred by BioChem to perform its obligations under the Research and Development Agreement are expensed as research and development expenses under Canadian and U.S. GAAP.

If BioChem exercises the purchase option of all the outstanding CliniChem Class A Common Shares, the purchase option exercise price will be allocated between capitalized intangibles (for the value of completed CliniChem products) and in-process research and development (for the value of research and development ongoing under the CliniChem research and development programs). Under U.S. GAAP, the value attributed to in-process research and development will be immediately written off as an expense, while under the Canadian GAAP it will be amortized over the period benefited.

The development programs to be conducted by CliniChem under agreements with BioChem are discussed in the following section "The CliniChem Programs".

BioChem holds an option to acquire commercialization rights with respect to individual products developed by CliniChem on a country-by-country basis. BioChem also holds an option to purchase all of the outstanding CliniChem Class A Common Shares at a price to be set according to a predetermined formula. Under the terms of such option, BioChem may elect to issue its common shares in satisfaction of the purchase price.

On January 10, 2000, BioChem announced its plan to exercise its purchase option of all the outstanding CliniChem Class A Common Shares upon depletion of CliniChem's financial resources, which is expected sometime before year-end. BioChem may also from time to time purchase CliniChem common stock in the open market or privately negotiated transactions or otherwise as it deems appropriate.

As of May 1st, 2000, BioChem has purchased 144,000 CliniChem Class A Common Shares in open market transactions.

THE CLINICHEM PROGRAMS

Therapeutics

Troxacitabine (formerly known as BCH-4556)

Troxacitabine is a nucleoside analog being developed to treat various forms of cancer. A few nucleoside analogs, such as gemcitabine and Ara-C, are used in the treatment of certain cancers. These nucleoside analogs inhibit tumor growth by preventing cell replication. Currently marketed nucleoside analogs have two major disadvantages that impair their anticancer activity and have limited their use to date. First, they are rapidly deaminated by cellular enzymes, which leads to a loss of efficacy and consequently to the resistance of the cancer to treatment. Second, existing nucleoside analogs are typically unable to completely stop cell division and therefore do not optimally treat cancer. Troxacitabine is a nucleoside analog which CliniChem believes will provide significant benefits in treating various forms of cancer due to its novel structure and mechanism of action. Discovered and synthesised by BioChem scientists, troxacitabine is structurally different from currently marketed nucleoside analogs. Because it is a nucleoside

analog which has a non-natural (β -L) configuration, troxacitabine is not vulnerable to deamination. In addition, because it lacks the 3'-hydroxyl group it acts as a complete DNA chain terminator, and thus may be able to completely stop tumor cell division. CliniChem believes that both of these characteristics could lead to improved efficacy compared to other currently marketed nucleoside analogs. CliniChem plans to administer troxacitabine initially by intravenous injection.

Three Phase I safety and pharmacokinetic studies have been completed in a total of 104 advanced stage cancer patients with solid tumors: a single dose regimen and two additional multiple dose regimens. The drug was well tolerated with myelosuppression and skin toxicity (rash and the hand-foot syndrome) as the main side effects. Major clinical responses were seen in three patients with malignant melanoma, hypernephroma and a carcinoma of unknown origin. Based on these encouraging results, CliniChem has undertaken a pilot Phase II clinical trial program with troxacitabine in various types of solid tumors (e.g. renal, prostate, colorectal, non-small-cell lung, pancreatic, melanoma) using the once every three weeks administration schedule. In addition, CliniChem will also examine the therapeutic effects of troxacitabine using an alternate administration schedule in pancreatic cancer, renal cell cancer, and melanoma. CliniChem believes that these pilot Phase II studies will delineate both the types of cancer in which troxacitabine shows activity and the administration schedule with the best efficacy and safety profile. CliniChem will then focus on the solid tumors where activity is seen in the pilot Phase II studies for its Phase III program. Since, in clinical practice, cancers are treated mainly by using combinations of chemotherapeutic agents, CliniChem is also performing, in parallel, two pilot combination chemotherapy Phase I trials of troxacitabine with either cisplatin or paclitaxel in solid tumors. It is hoped that these studies will open additional areas of development for troxacitabine in the treatment of solid tumors.

A Phase I safety and pharmacokinetic study in refractory acute leukemia patients has also been completed at the MD Anderson Cancer Center in Houston, Texas. Thirty-one patients with acute myelogenous leukemia (AML) were treated and a specific recommended dose was defined for this patient population. Again, the drug was well tolerated with skin toxicity and mucositis as the main non-hematologic side effects. In addition, troxacitabine showed promising signs of antileukemic activity in this heavily pretreated population of patients: 4/31 patients had major (complete and partial) responses and 22/31 showed a significant decrease in their leukemic cells following therapy. CliniChem will thus follow up on these results by testing three different troxacitabine combination regimens (with either idarubicin, topotecan or Ara-C) in the year 2000. CliniChem believes that these trials will optimize the antileukemic activity of troxacitabine and set the groundwork for subsequent Phase III trials.

Epidemiological data (*Eur J Cancer* 35(1):24-31 1999 UI: 99227530 Abstract) confirm that each year, there are an estimated 10 million new cases of cancer diagnosed globally, and this is expected to rise steadily to 20 million by the year 2020. Over 6.2 million people worldwide died of cancer in 1997. The leading causes of cancer deaths are attributed to lung (1.1 million), stomach (765,000), colon and rectum (505,000), and breast (385,000).

The worldwide cancer market was valued at over U.S.\$16 billion in 1998, or about 5% of the global pharmaceutical market (IMS World 2000, *Annual Review of Pharmaceutical Industry Performance*). In 1998, the cancer market grew by approximately 15% over the previous year, 1997 (Datamonitor *SPRINT Sales 1999*). Factors influencing the strong growth in the cancer drug therapy market include: (a) increased incidence of cancer; (b) improved diagnosis; and (c) development of effective adjunct therapies which enable more intense, more effective and more widespread use of chemotherapy. The increased incidence of cancer is due to many factors, including: (a) worldwide population growth; (b) longer life expectancies; and (c) increased exposure to carcinogenic environmental or dietary factors.

Anti-HIV Programs

Appearance of drug resistant viruses is an inevitable consequence of prolonged exposure of HIV to antiretroviral therapy. Recent studies suggested that HIV can become multi-drug resistant under combination therapy. Therefore, it is still necessary to develop alternate drug combinations for the long-term successful treatment of HIV infection. CliniChem is focusing its efforts on developing new agents which are effective against existing drug resistant viruses and can be rationally incorporated into novel drug combination therapy. The objective of CliniChem's program is to bring to the market drugs which are potent, well tolerated and active against strains of virus resistant to current therapies. Two compounds, both nucleoside analog reverse transcriptase inhibitors (NRTIs), are currently being developed, namely (-) dOTC and BCH-13520.

A) BCH-13520

BCH-13520 is a novel anti-HIV NRTI which has progressed from discovery research to the preclinical development stage in mid-1999.

The data used to support the advancement of this compound has been accumulating since 1998. BCH-13520 has shown significant inhibition of HIV replication for both wild-type and drug resistant virus. Importantly, *in vitro* studies have demonstrated that BCH-13520 is very active against clinical isolates of HIV which display phenotypic resistance to marketed antiretroviral agents. Most significantly when tested against two strains of HIV harboring multiple mutations, including two amino acid insertions at position 69 of the viral reverse transcriptase gene, there was only an approximate 5-fold reduced susceptibility of these resistant viruses to BCH-13520. This is in contrast to an observed reduced susceptibility of these viruses of 27 to greater than 200-fold for AZT and a reduced activity of 23 to 41-fold for 3TC.

In vitro studies have also shown that BCH-13520, when used in combination with 3TC, AZT, Sustiva, d4T, BCH-10618 ((-)-dOTC), nevirapine, saquinavir, or abacavir, demonstrates additive or slightly synergistic antiviral activity with most of these agents. These data suggest that BCH-13520 will be able to fit into multi-drug combination regimens.

Resistance of the HIV viruses to BCH-13520 is slow to develop which is in contrast to the relative speed of emergence of virus grown in the presence of AZT, 3TC or nevirapine.

Cytotoxicity evaluations of BCH-13520 demonstrate an excellent toxicity profile *in vitro*. Extended studies (28 days of continuous exposure to growing HepG2 cells) also revealed that BCH-13520 caused no change in cell growth or mitochondrial DNA content at concentrations of BCH-13520 up to 100 μ M.

In order to further profile BCH-13520, initial *in vivo* (efficacy, pharmacokinetic, and toxicity) work has been performed with this compound in animals. In a mouse model of HIV infection, BCH-13520 was able to reduce virus levels in mouse serum by over one log unit following treatment with BCH-13520 at 30 mg/kg/day for 14 days. Pharmacokinetic and acute toxicity studies have been completed with rats tolerating the drug at the highest dose administered (2,000 mg/kg p.o.). A two-week escalating repeat dose toxicity evaluation in rats was also conducted and the product was found to be safe up to 500 mg/kg/day.

Taken together, the data indicates that BCH-13520 is a candidate worthy of advancing into clinical evaluation for the treatment of HIV infection. Work is currently underway to produce material to perform preclinical long-term Good Laboratory Practice safety studies. CliniChem plans to submit an IND to begin Phase I trials in early 2001.

B) (-)-dOTC (also known as BCH-10618)

(-)-dOTC is a compound being developed for the treatment of HIV infection and AIDS. (-)-dOTC has been shown to stop the replication of the HIV virus *in vitro*. (-)-dOTC is a nucleoside analog with a novel structure which targets the HIV reverse transcriptase enzyme. By targeting the reverse transcriptase enzyme, (-)-dOTC appears to interfere with the transcription of viral RNA to viral DNA, a process necessary for HIV replication. Other nucleoside analogs, such as AZT and 3TC, also inhibit the reverse transcriptase enzyme. However, (-)-dOTC appears to be capable of inhibiting the replication of HIV viruses that have become resistant to 3TC and AZT and to some protease inhibitors. In addition, based on *in vitro* studies, in contrast to 3TC, resistance to (-)-dOTC appears slow to develop and when mutations do emerge in the virus, they confer little to no diminished sensitivity to (-)-dOTC. CliniChem believes these properties may give (-)-dOTC a role in the treatment of both HIV-infected patients in whom standard triple combination regimens are no longer effective and in patients who have never received anti-HIV therapy (first-line therapy).

The racemic mixture dOTC (an equal mixture of (+)-dOTC and (-)-dOTC) was investigated previously *in vitro*, in preclinical, and in Phase I clinical studies. Further to the good safety and pharmacokinetic profile of racemic dOTC in two Phase I single-dose healthy volunteer studies, a Phase I/II clinical trial was conducted with racemic dOTC in antiretroviral-naïve, HIV infected patients. This study was initiated late in 1998 and was completed in the third quarter of 1999. The results from this 7-day study demonstrated racemic dOTC's potent activity in HIV-infected patients and further demonstrated its good tolerability. The 3-month rat toxicity study, as well as rat and rabbit teratology studies were also completed in 1999. Results from these studies continued to demonstrate racemic dOTC's good preclinical safety profile. However, in a long-term toxicity study terminated late in 1999, racemic dOTC was found to be toxic in monkeys. After much investigation, the species specificity of the toxicity seen with racemic dOTC could not be demonstrated, nor could the mechanism(s) responsible for the observed toxicity be elucidated.

Given these toxicity results with racemic dOTC, and given the potent *in vitro* activity and good *in vitro* safety profile of (-)-dOTC relative to (+)-dOTC, it was decided to terminate the development of racemic dOTC and to continue with the development of (-)-dOTC.

Chemical development of (-)-dOTC is currently ongoing, to be followed by the further investigation of the toxicity profile of (-)-dOTC in animals.

According to *World-Wide Antiretroviral Sales, IMS Report*, in 1999, the antiretroviral (anti-HIV) market was approximately U.S.\$3.5 billion in sales, with reverse transcriptase inhibitors representing 57% of the market (U.S.\$2 billion). The vast majority of the sales were generated in North America and Western Europe. The WHO estimates that, as of the end of 1999, 33.6 million people worldwide had been infected with HIV, the virus that causes AIDS. It is generally believed that the vast majority of individuals infected with HIV will ultimately develop AIDS if they are not properly treated. In 1999 alone, there were 5.8 million new HIV infections.

Angiogenesis Inhibitors

There are two phases that demarcate the development of cancer. In the prevascular stage, tumor growth is very limited and generally not accompanied with metastasis. This condition may persist for many years before occurrence of angiogenesis which is the process whereby new blood vessels are formed. Over the last few years, it has been recognised that tumor growth is dependent upon the formation of new blood vessels to supply the cancerous mass with oxygen and nutrients as well as to remove carbon dioxide and other metabolic products. Consequently, angiogenesis is required for the growth and proliferation of tumors. In fact, without angiogenesis the growth of solid tumors is limited to 1-2 mm in diameter. An agent that could block tumor-induced angiogenesis should be beneficial in preventing the outgrowth of clinically invisible micrometastasis in cancer patients.

One of the required elements of the angiogenic process is the activation of integrin receptors such as $\alpha v \beta 3$. Since the relative importance of integrins has not been clearly defined for human cancers, CliniChem has been pursuing the discovery and development of small molecule inhibitors that are selective towards $\alpha v \beta 3$ as well as antagonistic to related integrin receptors. This approach should permit the identification of ideal integrin antagonists for solid tumor growth control. Such molecules are expected to be used in combination with standard chemotherapeutic agents to treat a wide variety of solid tumors. This project originated from a collaboration between scientists from BioChem and the Beth Israel Deaconess Hospital at Harvard University.

After several iterations, CliniChem has optimised one class of small molecules that has demonstrated potent integrin antagonism *in vitro*. *In vivo* anticancer and anti-angiogenesis studies were carried out using continuous drug delivery against orthotopically implanted metastatic human lung carcinoma in nude mice and a trend for antitumor activity was observed with two of these compounds. Also, tumor angiogenesis was significantly less in groups treated with these two compounds. One compound also showed a statistically significant tumor regression against orthotopically implanted human brain glioma in nude mice. Since promising results were observed against human brain glioma and lung carcinoma, the next major goal was to solve compound solubility and bioavailability through drug formulation and/or with prodrugs. Work towards this goal was undertaken late in 1999 and resulted in the development of two soluble prodrugs. Further experiments are ongoing with these compounds to confirm the antitumor activity in the brain glioma model. Pending results of ongoing experiments, a decision to develop one of these prodrugs for brain cancer will be taken in 2000.

There is no integrin inhibitor which has been approved for the treatment of cancer by inhibiting angiogenesis. However, there are a number of anti-angiogenic agents, with other mechanisms of action, in preclinical and clinical development which are being studied alone or in conjunction with chemotherapeutic agents. Due to the nature of the angiogenic process, these agents are likely to be administered over a long period of time to prevent angiogenesis. If effective in preventing the recurrence of cancer tumors, CliniChem believes that the market for these angiogenesis inhibitors may be substantial. CliniChem also believes that such products, if successfully developed, could be used as: (a) an adjunct to chemotherapy or radiotherapy; (b) a follow-up to chemotherapy to prevent recurrence of the tumors and metastases; (c) therapy for large, slow-growing tumors that are less responsive to cytotoxic chemotherapy; and (d) first-line therapy to bypass drug resistance.

Further to the cancer indication, it has been shown that integrins such as $\alpha v \beta 3$ play an important role in ocular neovascularization. Therefore, CliniChem's integrin antagonists may be useful for preventing angiogenesis resulting from certain ocular diseases. A currently unmet medical need is the treatment of subretinal neovascularization associated with age-related macular degeneration which is a principal cause of blindness. Through a collaboration with scientists from the Ophthalmology Department of Washington University in St Louis, MO, U.S.A., CliniChem is assessing the anti-angiogenesis activity of its small molecule integrin antagonists in a murine model of subretinal neovascularization. These experiments should be completed in 2000. Pending positive results, the best compound will be selected for preclinical development for age-related macular degeneration with the goal to file an IND in 2001.

Vaccines

Vaccines stimulate the immune system to a state of protective immunity. Vaccines may consist of whole viruses or bacteria, of specific antigens that may be formulated with an adjuvant or delivery system (agents added to antigens to enhance immunogenicity), or of nucleic acid encoding the vaccine antigen. CliniChem is developing recombinant protein vaccines against numerous bacterial infections for which no vaccines are currently available or for which vaccines exist but with less-than-optimal efficacy. CliniChem is

focusing its initial efforts on the development of candidate vaccines against diseases caused by *Neisseria meningitidis*, Group B *Streptococcus*, and *Streptococcus pneumoniae* and also will be developing vaccines against infections of non-typeable *Haemophilus influenzae*, and *Chlamydia pneumoniae*. The Board of Directors of CliniChem decided in April 1999 to discontinue funding of the *Neisseria gonorrhoeae* (gonorrhoeae) vaccine program.

CliniChem has adopted the strategy of identifying specific bacterial proteins for each pathogen that are able to elicit a broad immune response against all strains of the pathogen and that are immunogenic in young children. This approach offers potential advantages over alternative approaches. Many bacterial vaccines available today are polysaccharide vaccines or polysaccharide conjugate vaccines. Polysaccharide vaccines suffer from several disadvantages. First, such vaccines are T-independent antigens, which do not stimulate immune memory and therefore produce only short-term immunity. Second, these vaccines are poorly immunogenic in young children. Third, they do not elicit good secondary responses and therefore cannot be used to produce a booster effect. Furthermore, there is significant antigenic variation among the capsular polysaccharides of different bacterial strains of the same bacteria, which necessitates the combination of multiple polysaccharide antigens to ensure broader immunity. Thus, different bacterial strains have unique capsular polysaccharides, making it impossible for a single polysaccharide vaccine to provide global protection against a broad range of strains of the particular bacterium. Consequently, numerous polysaccharide antigens must be administered to protect against multiple strains of an encapsulated bacterium.

To overcome certain limitations of polysaccharide-based vaccines, polysaccharide conjugate vaccines have been and are being developed. Two such vaccines to protect against *H. influenzae* type b and *S. pneumoniae* are marketed. These conjugate vaccines consist of polysaccharide chemically coupled with a protein carrier. Because of the carrier, conjugate vaccines induce a T-dependent immune response, which induces a memory effect and can be used to produce a booster effect. However, these conjugate vaccines have their limitations. Because of the limited number of conjugate vaccines that can be combined in a single dose, current conjugate vaccines provide protection against only a limited number of strains of a bacterium. In addition, because of the conjugation process, these vaccines are complex and thus relatively expensive and difficult to manufacture.

CliniChem is developing recombinant protein vaccines that attempt to overcome the limitations of both polysaccharide and polysaccharide conjugate vaccines. CliniChem's vaccines would elicit T-dependent immunity, which hopefully would elicit (a) immunogenicity in children under the age of two, and (b) a better and long-lasting immunity in people of all ages. In addition, CliniChem believes that the development of a vaccine based on an antigen conserved among all bacterial strains should allow the design of a single protein vaccine that could provide broad protection against multiple bacterial strains. Furthermore, such vaccines should be easier and less expensive to manufacture and could be combined more easily with vaccines that protect against other infectious diseases.

CliniChem is developing recombinant protein vaccines against the following two bacterial infections:

1) *Neisseria meningitidis*

N. meningitidis causes endemic and epidemic disease, mostly meningitis and septicemia, which have high mortality rates. The latest outbreak in Africa (1996) affected more than 100,000 people and claimed more than 10,000 lives. The WHO estimates that approximately 35,000 of more than 300,000 cases reported worldwide each year are fatal. The development of an effective meningococcal vaccine is a research priority of the WHO, the Children's Vaccine Initiative, and the Institute of Medicine ("IOM") of the U.S. National Academy of Sciences. Infection by *N. meningitidis* is the second most common cause of bacterial meningitis in the U.S.A. (approximately 30-40% of all cases), affecting approximately 4,000 people each year. The fatality rate is approximately 10% for meningitis and 20% for septicemia, despite antibiotic therapy. The incidence of endemic meningococcal meningitis is highest among children aged 6-12 months and then steadily declines with age. By 5 years of age, the incidence approximates that for adults. Serogroup B, for which no vaccine exists, accounts for approximately 33% of all cases of infection by *N. meningitidis*. While serogroup A causes only a small portion of endemic disease in the United States, it is the most common cause of epidemics in developing countries.

The current polysaccharide vaccine has antigens for only four (A, C, W135 and Y) of the 12 *N. meningitidis* serogroups (based on capsular polysaccharides). The protein discovered by BioChem appears to hold potential for the development of a vaccine against all *N. meningitidis* strains, including serogroup B. CliniChem has found that this protein is present in all meningococcal isolates and is exposed at the surface of intact meningococcal bacteria, where it is accessible to antibodies. CliniChem believes that this vaccine will have all the potential benefits of recombinant protein vaccines described above.

In research experiments, CliniChem used its candidate vaccine to immunize mice in order to evaluate the vaccine's ability to confer protection. This preclinical work showed that the purified recombinant protein was immunogenic and protective against lethal

N. meningitidis infection. The serum antibodies obtained from the immunized mice killed *N. meningitidis* cells. This type of bactericidal activity is generally recognized as being indicative of clinical protection against *N. meningitidis* infection. CliniChem has developed a clinical-trial-scale manufacturing process in Northborough, Massachusetts, and initiated Phase I clinical trials in Canada in November 1999.

2) Group B *Streptococcus* (*Streptococcus agalactiae*)

Group B *Streptococcus* ("GBS") is classified into seven serotypes based on their capsular polysaccharide antigenicity. GBS infections are the leading cause of life-threatening bacterial infections such as pneumonia, sepsis and meningitis during the neonatal period. In the United States, there are approximately 10,000 cases of invasive GBS infections per year, with a mortality rate approximately 10%. Many infants that survive meningitis may suffer from neurologic sequelae. In addition, GBS has emerged as an important pathogen among adults, especially the elderly or patients with chronic underlying disease. Therefore, developing a GBS vaccine is also a priority of the IOM.

In research work, CliniChem used its candidate recombinant vaccine to immunize mice in order to evaluate the protein's ability to confer protection against GBS bacteria. This preclinical research showed that the recombinant protein vaccine is immunogenic and protective in mice against all major serotypes of GBS bacteria. The protein is highly conserved in all GBS serotypes evaluated. Based on these results, CliniChem initiated process development in Northborough in August 1999 with the aim of filing an IND in the first quarter of 2001 in order to initiate Phase I clinical trials.

CliniChem is conducting vaccine research programs to develop vaccines against the following three bacterial infections:

1) *Streptococcus pneumoniae*

Streptococcus pneumoniae infections are among the leading causes worldwide of illness and death in young children, persons with underlying debilitating medical conditions and the elderly. *S. pneumoniae* is an important cause of meningitis, pneumonia and otitis media (middle ear infection). Each year, *S. pneumoniae* accounts for three to six thousand cases of meningitis, 500,000 cases of pneumonia and seven to ten million cases of acute otitis media in the United States alone. Case fatality rates vary by age and the underlying illness of the patient. According to the CDC, the case fatality rates for some immunocompromised and other high-risk patients have been reported to be higher than 55% for meningitis and 40% for pneumonia, despite appropriate antibiotic therapy. In children, *S. pneumoniae* causes approximately 35 to 40% of all cases of otitis media.

CliniChem believes that *S. pneumoniae*-caused diseases will become more prevalent. In the past, *S. pneumoniae* was almost uniformly susceptible to penicillin, allowing most physicians to treat persons with severe infections with penicillin alone without testing for antibiotic resistance. However, since the late 1980s, resistance to penicillin and other antibiotic agents has spread rapidly. Investigations by CDC of *S. pneumoniae*-caused diseases have revealed that, in some areas of the United States, as many as 30% of disease-causing *S. pneumoniae* strains are not susceptible to penicillin. A smaller percentage of disease-causing *S. pneumoniae* strains is also resistant to multiple antibiotic therapies.

All strains of pneumococci isolated from humans are encapsulated and the polysaccharide capsule has been recognized as a *sine qua non* virulence factor. *S. pneumoniae* can be divided into at least 90 serologically defined capsular types but a limited number cause most disease. Variations in the frequency of the capsular types occur over time, geographic areas, and age groups. A polysaccharide vaccine against the 23 most common serotypes has been available since the early 1980s. It is no more than 60% effective in preventing *S. pneumoniae*-caused meningitis and pneumonia in adults but is poorly effective in infants under two years of age and also had lower efficacy in the elderly. Furthermore, it is not currently used to prevent otitis media. An heptavalent conjugate vaccine composed of seven polysaccharides coupled to a protein carrier to increase immunogenicity was approved by FDA in February 2000 for immunization in infants under age two. However, this product would cover only 50-75% of disease and is technically complex to produce and combination with other vaccines may prove to be unsuitable. Moreover, it is not indicated for use in adults or as a substitute for other approved pneumococcal polysaccharide vaccines for high risk children over the age two and the vaccine's effectiveness in preventing ear infections has not been evaluated by FDA.

CliniChem has discovered promising proteins that appear to hold great potential for the development of a new human vaccine against all serotypes of *S. pneumoniae* infections. These proteins can induce strong immune responses in mice. Vaccinated animals were protected against a lethal challenge in both bacteremic and pneumonia models of infection. These proteins are conserved antigenically among *S. pneumoniae* isolates, exposed at the pneumococcal surface and accessible to protective antibodies. For all these reasons, CliniChem believes that these proteins possess the necessary and important characteristics to be considered as

potential candidates for the development of a new broad-range vaccine for the prevention of *S. pneumoniae* infections in humans. Further research is still ongoing with the objective of progressing the project to the development stage towards the end of year 2000.

2) *Haemophilus influenzae* non-typeable

Haemophilus influenzae is a bacterium that is considered a major human pathogen. There are two types of *H. influenzae*: the encapsulated form that has six antigenically distinct capsular types (types a to f) and the unencapsulated form (non-typeable) that may cause diseases of less virulence than the encapsulated form. The unencapsulated form is recognized as responsible for acute respiratory infections, chronic bronchitis, otitis media (25 to 30% of all cases), bacteremia and meningitis (5% of all cases). *H. influenzae* non-typeable is among the five most common causes of community-acquired pneumonia (between 5 to 15% of the 500,000 hospital admissions annually in the United States). Annually, there are typically approximately 4,000 cases of invasive disease in adults including bacteremic pneumonia, obstetric infections, epiglottitis, meningitis and tracheobronchitis due to *H. influenzae* non-typeable. Although several *H. influenzae* type b polysaccharide conjugate vaccines have been developed, these vaccines are ineffective against disease caused by other *H. influenzae* strains. The identification of conserved cross-protective outer membrane antigens is critical for the development of a universal vaccine against *H. influenzae* infection and disease. Presently, there is no vaccine available against non-typeable *H. influenzae*.

CliniChem is currently characterizing five *H. influenzae* outer membrane proteins. These proteins are present in all serotypes of *H. influenzae* as well as non-typeable *H. influenzae*. They are distinct from other known bacterial proteins and are highly immunogenic. One protein was found to be the target for human antibodies while the four others were among the components of outer membrane fraction that conferred protection in an experimental model of lung infection. The results suggest that these proteins are potentially valuable components for a subunit vaccine against non-typeable *H. influenzae* disease.

3) *Chlamydia pneumoniae*

According to 1994 estimates of the American Heart Association, approximately 58 million Americans have one or more forms of cardiovascular disease, among whom approximately 13.7 million have coronary heart disease and approximately 3.9 million have strokes. Cardiovascular diseases claimed almost one million lives in the U.S. in 1994. Coronary heart disease is most commonly caused by atherosclerotic narrowing of the coronary arteries. It is likely to produce *angina pectoris*, heart attack or both.

Chlamydia pneumoniae infections may play a role in the development of atherosclerosis. The organism is often present in upper and lower respiratory tract infections and has been thought recently to contribute to the process of atherosclerosis. However, substantially more research will be needed in order to confirm this hypothesis. A vaccine against *C. pneumoniae* would offer a viable cost effective alternative or supplement to current management of heart diseases.

CliniChem's research program on *C. pneumoniae* is at an early stage. A combined genomic/immunological approach has allowed to identify one immunogenic protein inducing a strong protective immunity and ten recently selected antigens that will be further tested in animal models. Immunological response has shown that a strong local and systemic humoral response could significantly prevent the dissemination of *C. pneumoniae*. Further studies will be undertaken to further characterize the immunogenicity and protective potential of all these new vaccine candidates.

Neisseria gonorrhoeae

The research program for a recombinant vaccine against infection by *Neisseria gonorrhoeae*, which was part of the initial CliniChem Programs, has been discontinued following a decision of the Board of Directors of CliniChem on April 27, 1999.

Computer-Assisted Detection

Second Look

Second Look is a computer-assisted detection system for mammography developed under a license and development agreement with Qualia Computing, Inc. ("Qualia"), a privately held U.S. medical computer science company. Second Look is a system which, in its first application, was designed by Qualia engineers to assist radiologists in the earlier diagnosis of breast cancer by enhancing their ability to interpret mammograms. Early stage detection has been shown to dramatically improve survival rates and reduce cost of treatment. The Second Look system digitizes the x-rays and then applies advanced image processing and neural network software in a manner that directs radiologists to anomalies such as microcalcifications and atypical masses, early indicators of disease that might otherwise go undetected on visual inspection alone.

The product is currently undergoing clinical trials in the U.S. to meet FDA requirements. Clinical testing will be completed and a pre-market approval ("PMA") submission is planned in 2000. Based on receiving FDA approval, the Company expects to market the product in the U.S. in 2001. The Company expects to market Second Look outside the U.S. in 2000. In that regard, the Company is currently completing application for CE mark and expects European approval in 2000. On January 28, 2000, Second Look was first approved for sale in Canada. In addition, the Company is currently seeking approval to sell Second Look in several countries outside North America and Europe.

The next generation of this technology will be a software product that performs the same functions directly with digital mammography images. The development of this system is currently being pursued by CliniChem.

RELIANCE ON COLLABORATIVE RELATIONSHIPS

The Company can make no assurances regarding the future results or performance of its existing or future agreements and collaborations. Additionally, there can be no assurance that the Company will be able to negotiate other acceptable arrangements in the future or that any existing or future collaborations will be successful.

There can be no assurance that the collaborators' interests are or will remain consistent with those of the Company or that they will succeed in developing any new marketable products or obtaining requisite government approvals. Should BioChem and its collaborators fail to develop any new marketable products, obtain the requisite regulatory approvals or market any of such products successfully, the Company's business, financial condition and results of operations may be materially and adversely affected. In addition, the Company cannot control the amount and timing of resources which its collaborators devote to the Company's programs. Certain of these agreements do not prevent the collaborators from pursuing alternative technologies that could result in their developing products competitive with those products developed under the Company's collaborative agreements. The agreements may be terminated by the collaborators in certain circumstances with limited notice, and the collaborators may thereupon acquire certain rights to the products under development.

MARKETING

Glaxo Wellcome is responsible for all commercial activities for 3TC and for Zeffix worldwide except for Canada where 3TC, Combivir and Zeffix are sold by BioChem in partnership with Glaxo Wellcome. The partnership is responsible for Canadian sales and marketing, with both BioChem and Glaxo Wellcome allocating sales and marketing personnel to act on behalf of the partnership. Glaxo Wellcome is responsible for the other activities, such as distribution and manufacturing, on behalf of the partnership.

The Company achieved profitability in 1996 due in large part to Glaxo Wellcome's successful commercialization of 3TC. The profit growth of the Company is dependent upon growth in 3TC and Zeffix sales. 3TC has become the cornerstone of combination therapy for the treatment of HIV/AIDS around the world. Although 3TC has rapidly penetrated the market, there are certain factors that can influence its continued success including, the willingness and ability of HIV-infected patients to remain adherent on these complex multi-drug combination therapies. It has been demonstrated that lack of adherence to therapy can lead to treatment failure due to the capacity of HIV to become resistant to antiretrovirals. The potential number of combinations that are now available has significantly increased since 3TC was first approved for marketing and there is no assurance that 3TC will remain or be part of all these combination therapies. Lastly, due to the difficulty to remain adherent and the long-term cumulative toxicity of antiretrovirals, there is a significant trend across North America and Europe to wait a certain period (approximately 6 months) before initiating anti-HIV therapy. This wait-and-see period could increase if it were to be proven that this is not detrimental, or even that this is beneficial. Thus, continued growth of 3TC is dependent both on initiating and retaining new patients on therapy, the overall competitive situation and the ability of patients and third party payers to pay for therapy.

The total worldwide sales in 1999 of Zeffix were U.S.\$24.2 million (CND\$36.0 million). Zeffix was launched towards the end of 1998 in the Philippines and Canada, with United States launching in January 1999.

Throughout the course of 1999, Zeffix continued to gain approvals in a number of countries, notably Hong Kong, Singapore, China, South Korea, European Union and Taiwan and, by end-1999, reimbursement in some of these countries had begun to be secured. The Company looks forward to Zeffix continuing to gain reimbursement, not only in the remaining markets where it was approved for sale in 1999, but also in those markets where Zeffix is expected to gain regulatory approval in 2000, such as in Japan.

BioChem plans to market and sell certain of its therapeutic products, if successfully developed and approved, directly in North America and elsewhere through co-promotion arrangements or other licensing arrangements with third parties. In North America, in

cases where BioChem has sole or shared marketing rights, it plans to build a small, focused sales force if and when such products approach marketing approval. Implementation of this strategy will depend on many factors, including the market potential of any products the Company develops as well as on the Company's financial resources. In 1999 the Company had already begun building its oncology and anti-infective commercial development teams, as well as its marketing services group in order to support eventual commercialization of its therapeutic pipeline. To the extent the Company has entered or will enter into co-promotion or other licensing arrangements, revenues received by the Company will be dependent on the efforts of third parties.

In 2000, the Company plans to begin marketing its Second Look detection system both directly and via distributors worldwide, with the exception of the U.S., where the Company expects to begin commercialization in 2001, pending FDA regulatory approval. The Company currently markets its vaccines in Canada and Argentina. This year, the Company plans to expand its global sales of Fluviral and PACIS, via distributors, in approximately ten additional markets.

MANUFACTURING

Except for the BCG therapeutic product, marketed under the trade name PACIS, the Company currently has no manufacturing facilities for commercial production of any of its therapeutic products approved or under development. The Company is relying on Glaxo Wellcome's manufacturing capabilities and resources for the manufacture of 3TC and Zeffix pursuant to the terms of the agreements entered into with Glaxo Wellcome. The Company believes that Glaxo Wellcome presently has the facilities available to manufacture an amount of 3TC and Zeffix to supply sufficient commercial quantities of the compound.

For troxacitabine, (-)dOTC and BCH-13520, the Company is working with contract manufacturers to supply quantities sufficient to conduct its clinical and pre-clinical trials. The Company also intends to rely on third parties for the commercial production of these products, if and when approved. For its other potential therapeutic products, the Company is looking at reducing the production costs and at improving the synthetic and purification yields for use on a larger scale in order to conduct human clinical trials and produce such products for commercial sale at an acceptable cost. For BCH-3963, the Company is relying on Astra Zeneca's manufacturing capabilities.

The Company entered into a manufacturing and supply agreement with Colorado Medtech Inc., located in Longmont, Colorado on May 17, 1999. Colorado Medtech Inc. will manufacture and supply the Second Look film product for the Company. The Company designs, develops and markets Second Look film through CADx.

The Company's vaccine manufacturing, quality control and warehousing operations are currently located in several owned or leased buildings in Canada and are approved by the Ministry of Health of Canada. In addition, these premises are used for the warehousing of vaccine products of other manufacturers which are distributed by the Company in the province of Québec. A portion of these premises are also used for administrative purposes.

The Company has a vaccine production center in Ste-Foy in the Québec City area. This center, completed in 1998, has an overall area of approximately 118,000 square feet and houses production, quality-control laboratories and warehousing as well as administrative offices. Commercial vaccine production in Ste-Foy began in 1998 once its validation process was completed. The Company uses its vaccine development facility in Northborough to produce vaccines for clinical studies. See "Vaccines". The Company, intends to rely partly or entirely on strategic partners' manufacturing and distribution capabilities for some of its vaccines. See "Vaccines" and "Significant Agreements – SmithKline Beecham Biologicals".

In the vaccine area, the Company must continue to develop, adapt or acquire the facilities, production technology and technical and managerial personnel to manufacture products in commercial quantities and in compliance with applicable quality assurance and environmental and local government regulations. In the therapeutics and CADx areas, the Company will have to develop or acquire the facilities, production technology and technical and managerial personnel to manufacture products unless it decides to rely exclusively on third parties for the manufacture of its products. Certain products that the Company is attempting to develop have never been manufactured on a commercial scale and there can be no assurance that such products can be manufactured by the Company or any other party at a cost or in a quantity to render such products commercially viable. Production of such products may require the development of new manufacturing technologies and expertise.

PATENTS AND PROPRIETARY INFORMATION

BioChem pursues a policy of seeking patent protection for valuable patentable subject matter of its proprietary technology. BioChem believes that patent and trade secret protection are important in its business, and that the Company's success will depend, in part, on its ability to obtain and enforce strong patents, to maintain trade secret protection and to operate without infringing the

proprietary rights of others. The Company has certain patents issued and a number of patent applications pending in the areas of therapeutics and vaccines in the United States, most European countries, Canada, Japan and selected countries worldwide depending on the patent application in question.

No assurance can be given that patents will issue from any pending applications or that claims allowed, now or in the future, under issued patents will be sufficiently broad to protect the Company's technology. In addition, no assurance can be given that any patents issued to, or licensed by, the Company will not be challenged, invalidated, infringed or circumvented, or that the rights granted thereunder will provide competitive advantages to the Company. The commercial success of the Company will also depend in part on the Company not infringing patents or proprietary rights of others and not breaching the licenses granted to the Company. The degree of patent protection afforded to pharmaceutical or biotechnological inventions around the world is uncertain. A number of products important to BioChem are subject to this uncertainty. BioChem is aware of certain issued patents and patent applications of others, and there may be other patents and patent applications, containing subject matter which the Company or its licensees or collaborators may require in order to research, develop or commercialise certain of the Company's products. There can be no assurance that the Company will be able to obtain a license to any third-party technology or patents that it may require to conduct its business or that such technology or patents can be licensed at a reasonable cost. Failure by the Company or its collaborators to obtain a license to any technology or patents that it may need to commercialise its technologies or products may result in delays in marketing the Company's proposed products or the inability to proceed with the development, manufacture or sale of products requiring such licenses and may have a material adverse effect on the Company.

BioChem currently has twenty-one issued patents in the United States claiming nucleoside analogs, methods of treatment using nucleoside analogs and processes for producing these nucleoside analogs. These patents include claims covering the chemical composition of lamivudine, troxacitabine, dOTC and related nucleoside analogs and methods of treating viral infections, including HIV and hepatitis B, with lamivudine and related nucleoside analogs. BioChem also has issued patents and pending applications covering lamivudine, troxacitabine, dOTC or other nucleoside analogs, processes for their preparation and methods of using same, in over 100 countries, including issued patents or pending applications in the United States, most European countries, Japan, Australia and Canada.

Emory University filed oppositions to two of BioChem's granted patent applications in Europe which cover oxathiolane nucleosides including lamivudine and dioxolane nucleosides, including troxacitabine, related nucleoside analogs and use of these analogs for treating viral infections. In oral hearings held in 1999, both of these oppositions were dismissed by the Opposition Division of the European Patent Office. Emory University has filed an appeal against the dioxolane related decision of the Opposition Division. It is believed that Emory University is not pursuing its appeal of the decision relating to oxathiolanes. However, there can be no assurance that Emory's appeal will not be reviewed or that Emory University will not file revocation actions in individual European countries. There can also be no assurance that BioChem will be successful in defeating Emory's appeal against the decision of the Opposition Board dismissing Emory's opposition against BioChem's granted patent application covering troxacitabine.

In Japan, Emory University filed an opposition to BioChem's granted patent which covers lamivudine, related analogs and use of the analogs for treating viral infections. The Trial Board of the Japanese Patent Office dismissed Emory University's opposition to BioChem's patent covering lamivudine. It is always possible that Emory University could file a revocation action against this patent.

On July 23, 1996, Emory University filed a complaint in the United States alleging infringement from the commercialisation of Epivir by the Company and Glaxo Wellcome Inc., the Company's exclusive licensee in the U.S., of an Emory University U.S. patent granted that same day. BioChem considers this patent infringement suit to be without merit and is vigorously challenging the validity of Emory University's patent. For a complete discussion of this matter see "Item 3. Legal Proceedings".

On May 19, 1998, the United States Patent and Trademark Office (the "USPTO") declared an interference between the Emory University patent that is the subject of the lawsuit and a pending patent application of the Company. The USPTO accorded the Company the earlier priority date and then accorded the Company senior party status in the interference. BioChem has vigorously challenged the Emory University patent in the interference, through to a final hearing on November 10, 1999. No decision has been received to date and there can be no assurance that BioChem will be successful in invalidating the Emory University patent in the interference, or in any subsequent appeals of the decision.

An examined patent application, filed by Emory University claiming lamivudine, was successfully opposed by BioChem in Australia. Emory University has filed an appeal from that decision in the Federal Court of Australia. BioChem also filed an appeal from certain portions of the decision. There can be no assurance that BioChem will be successful in the appeal. An examined patent application filed by Emory University claiming lamivudine was also opposed by BioChem in Japan. The opposition was dismissed in April 1999 because it was improperly filed by a representative who had previously represented Emory. Notwithstanding the

dismissal, the Japanese Patent Office issued an ex-officio action rejecting all of Emory University's claims. BioChem is also aware that Emory University has filed patent applications in other countries, which the Company believes may claim similar subject matter. BioChem intends to challenge such patent applications; however there can be no assurance that BioChem will be successful in challenging such patent applications in all countries where Emory University has sought patent rights. In the event that the Company were to be unsuccessful in opposing such patent applications or any patents which may be issued, the Company's business, financial condition and results of operations could be materially adversely affected.

On November 23, 1999, the USPTO declared an interference between BioChem's hepatitis B patent for lamivudine and a patent application filed by Yale University ("Yale") claiming methods of treating hepatitis B using lamivudine. The Company believes that this application is licensed to Vion Pharmaceuticals, Inc. ("Vion"), formerly known as OncoRx, Inc., a New Haven, Connecticut-based company. The Company believes that its patent is valid and intends to vigorously defend the patent. However, there is no guarantee that BioChem will be successful in defending its patent. It is always possible that Yale will obtain a patent in the U.S. covering methods of treating hepatitis B using lamivudine. There can be no assurance that BioChem would be able to obtain a license at a reasonable cost from Yale or Vion.

BioChem is not aware of corresponding patent applications by Yale University or Vion in countries other than the United States.

BioChem is aware that others, including various universities and biotechnology companies, have also filed patent applications or have obtained granted patents in the United States and other countries claiming subject matter potentially useful or necessary to BioChem's business. Some of these patents and applications claim specific products or methods of making such products, while others claim more general processes or techniques useful or now used in the pharmaceutical and biotechnology industries. With respect to the patents directed to general processes or techniques, BioChem believes that non-exclusive licenses have been made available under several of these patents to the industry for many, but not all, fields of use. The ultimate scope and validity of these patents and other existing patents or patent applications which may be granted to third parties in the future, the extent to which the Company may desire or be required to acquire rights under such patents, and the availability and costs of acquiring such rights presently cannot be determined by BioChem. In the event it is necessary for the Company to obtain such rights or, if such rights are not available on reasonable terms, the Company's business, financial condition and results of operations may be adversely affected. There can be no assurance that others have not obtained or will not obtain patent protection that will preclude BioChem from commercialising its products.

Litigation, which could result in substantial cost to the Company, may also be necessary to enforce any patents issued to the Company or to determine the scope and validity of other parties' proprietary rights, which may affect the Company's products and technology. If the outcome of any such litigation is adverse to the Company, the Company's business could be materially adversely affected. To determine the priority of invention, the Company may also have to participate in interference proceedings declared by the United States Patent and Trademark Office, which could result in substantial cost to the Company.

Under United States patent law, a patent is issued to the person who made the invention first, rather than to the first person to file an application therefor, as is common in other countries. In determining who is entitled to a United States patent on a particular technology, only acts in the United States (not other countries) prior to January 1, 1996 are relevant. As a result, since the Company conducted substantially all of its research activities outside of the United States before 1996, it is at a disadvantage as to inventions made prior to January 1, 1996 with respect to obtaining United States patents, as compared to companies that maintained research facilities in the United States.

There has been, and the Company believes that there may be in the future, significant litigation in the industry regarding patent and other intellectual property rights and that, if the Company becomes involved in such litigation, it could consume substantial resources. Significant legal issues remain as to the extent to which patent protection may be afforded in the field of biotechnology in Canada, the United States and other countries, and the scope of any such protection has not yet been broadly tested. The Company, therefore, also relies upon trade secrets, know-how, and continuing technological advancement to develop and maintain its competitive position. Disclosure and use of the Company's know-how is generally controlled in part under confidentiality agreements with the parties involved. In addition, the Company has confidentiality agreements with its key employees, consultants, officers and directors. There can be no assurance, however, that all confidentiality agreements will be honored, that others will not independently develop equivalent technology, that disputes will not arise as to the ownership of intellectual property, or that disclosure of the Company's trade secrets will not occur. Furthermore, there can be no assurance that others have not obtained or will not obtain patent protection that will exclude the Company from using its trade secrets and confidential information. BioChem supports and collaborates in research conducted in universities and in government research organisations. There can be no assurance that the Company will have or be able to acquire exclusive rights to inventions or technical information derived from such collaboration or that disputes would not arise as to rights in derivative or related research programs conducted by the Company. In addition, in the event of the Company's

contractual breach or bankruptcy, certain of the Company's collaborative research contracts provide for transfer of technology (including any patents or patent applications) to the collaborators. See "Significant Agreements". To the extent that consultants or research collaborators use intellectual property owned by others in their work with the Company, disputes may also arise as to the rights to related or resulting know-how or inventions.

COMPETITION

The pharmaceutical and biotechnology industries are characterized by rapidly evolving technology and intense competition. BioChem anticipates that it will face increased competition in the future as new products enter the market and advanced technologies become available. There can be no assurance that existing products or new products developed by the Company's competitors will not be more effective, or be more effectively marketed and sold, than any that may be developed by the Company. Competitive products may render BioChem's technology and products obsolete and non-competitive prior to the Company's recovering research, development or commercialization expenses incurred with respect to any such products. The Company's competitors include major pharmaceutical, medical software, chemical and biotechnology companies, many of which have financial, technical and marketing resources significantly greater than those of the Company. Many of the Company's existing or potential competitors, particularly large pharmaceutical, vaccine and medical software companies also have significantly greater experience than the Company in undertaking research, preclinical studies and human clinical trials of new pharmaceutical products, obtaining FDA and other regulatory approvals, and manufacturing and marketing such products. Accordingly, the Company's competitors may succeed in commercializing products more rapidly or more effectively than the Company, which could have a material adverse effect on the Company's business, financial condition or results of operations.

In addition, many biotechnology companies have formed collaborations with large, established pharmaceutical companies to support research, development and commercialization of products that may be competitive with those of the Company. Academic institutions, government agencies and other public and private research organizations are also conducting research activities and seeking patent protection and may commercialize products on their own or through joint ventures. The Company is aware of certain products manufactured or under development by competitors that are used for the prevention, treatment or detection of certain diseases, which the Company has targeted for product development. The existence of these products, or other products or treatments of which the Company is not aware, or products or treatments that may be developed in the future, may adversely affect the marketability of products developed by the Company.

Many pharmaceutical and biotechnology companies, alone and in collaboration with larger pharmaceutical companies, have developed and are marketing, or are developing, various products for infectious diseases and cancer. In the field of HIV infection, many products are currently approved for marketing in the United States and most have been approved in Canada, Europe and many other countries.

Approved medicines for the direct treatment of HIV infection currently fall into three categories: nucleoside analog reverse transcriptase inhibitors, non-nucleoside reverse transcriptase inhibitors and protease inhibitors. There are five nucleoside analog reverse transcriptase inhibitors on the market, other than 3TC. They are AZT, d4T, ddI, abacavir and ddC. Three non-nucleosides are approved: nevirapine, sustiva and delavirdine. Lastly, there are five protease inhibitors being marketed: indinavir, saquinavir, amprenavir, ritonavir and nelfinavir. All of these agents are being used in combination regimens. Market research data from April 1999 (ISIS) indicate that in Canada, Europe and the United States, the majority of HIV-infected patients on therapy are receiving triple combinations of antiretroviral agents, while the remaining patients on therapy are prescribed either double or quadruple combinations. Several companies are at various stages of development with a variety of anti-HIV therapeutic approaches.

In the field of chronic hepatitis B therapy, Schering-Plough Corporation is marketing Intron-A (alpha interferon). Glaxo Wellcome and Hoffmann-LaRoche also manufacture and market alpha-interferon. Also, SciClone Pharmaceuticals Inc. has received approval for an immunomodulator Zadaxin (thymosin alpha-1) for the treatment of chronic hepatitis B. Another potential competitor is adefovir dipivoxil, a nucleoside analog in development by Gilead Sciences for treatment of hepatitis B. The product is currently in Phase III clinical trials. Triangle Pharmaceuticals also has a nucleoside analog, emtricitabine, in Phase II clinical development for the treatment of HBV. Several other companies are at various earlier stages of research and development with a broad range of anti-HBV therapeutic approaches, including nucleoside and nucleotide analogs, therapeutic vaccines, immunomodulators, cytokines, antisense and other oligonucleotides and ribozymes.

Approved medicines for the direct treatment of cancer generally fall into the following classes of drugs: cytotoxic agents, hormonal agents, adjunct therapies and innovative therapies. According to Datamonitor Sprint Sales, 1999, market growth in 1998 over 1997 was driven by products in the cytotoxic and adjunct therapy classes, with 17% and 16% year over year dollar growth, respectively.

Based on the latest data available, the U.S. represents nearly half of the global dollar market, Japan ranks second at 16% and Germany, France, U.K., Italy and Spain collectively represent an additional 22%. Thus, these seven markets comprise nearly 85% of the prescription antineoplastic dollar market.

According to market research data on file, nine multinational pharmaceutical companies captured 63% of the cancer therapeutic market in 1998, with each company having at least one product with annual sales of \$225 million. However, only four companies had at least one product with annual sales of \$500 million or greater and only one company has a product with annual sales greater than \$1 billion. Increasingly, the practice has also been to give combinations of therapies to achieve a greater efficacy outcome; thus the competitive landscape is also evolving in this regard.

Thus, while there are several competitors in this market, each solid or hematologic tumor is treated as a distinct market, with its own incidence, survival, best treatment practices, etc. The cancer treatment market is characterized as fractionated, with few so-called "blockbuster" treatments, by industry standards. There is still a vast unmet medical need for potent, effective and well-tolerated therapies.

Many biotechnology companies and several pharmaceutical companies with established vaccine development and marketing programs are researching and developing vaccine products to prevent infectious diseases. Pasteur Merieux Connaught (Aventis), SmithKline Beecham plc, Merck & Co. Inc. and Lederle/American Home Products Corporation dominate the market for vaccines. These companies have been leaders in developing classical vaccines and are also developing a new generation of novel vaccines and combination vaccines predominantly to prevent childhood diseases.

For certain of the Company's potential products, an important factor in competition may be the timing of market introduction of the Company's or competitors' products. Accordingly, the relative speed with which BioChem or BioChem's present and future collaborative partners can develop products, complete the clinical trials and approval processes, and supply commercial quantities of the products to the market are key factors for competitiveness. The Company's competition will be determined in part by the potential indications for which the Company's products are developed and ultimately approved by regulatory authorities. The development by competitors of new prophylactic, treatment or detection methods for those indications for which the Company is developing products could render the Company's products non-competitive or obsolete. The Company expects that competition among products approved for sale will be based, among other things, on product efficacy, safety, reliability, availability, price and intellectual property protection.

The Company's competitive position also depends upon its ability to secure additional market acceptance and reimbursement of Zeffix. There can be no assurance that Zeffix will secure additional market acceptance or that any of the Company's products in development will achieve market acceptance. The degree of market acceptance will depend upon a number of factors, including the receipt of regulatory approvals, the establishment and demonstration in the medical community of the clinical efficacy and safety of the Company's product candidates, and the establishment and demonstration of the potential advantages over existing and new treatment methods and reimbursement policies of government and third-party payors. There can be no assurance that physicians, patients, payors or the medical community in general will accept and utilize any existing or new products that may be developed by the Company. Additionally, the Company's competitive position depends on its ability to attract and retain qualified personnel, obtain patent protection, or otherwise develop proprietary products or processes, establish collaborative relationships and secure manufacturing.

In the medical software market, the Company faces numerous large competitors who have substantial resources and innovative technologies. With regards to Second Look, competition within the market for computer-assisted detection system market for mammography will primarily be with two privately held technology companies; R₂ Technologies ("R₂"), in Los Altos, California and Scanis Inc., in Foster City, California. R₂ Technologies is presently commercializing a product known as ImageChecker. R₂ also signed an agreement with G.E. Medical Systems ("G.E.") to distribute a digital version of R₂'s Computer Aided Detection (CAD) System, for use with G.E.'s full-field digital mamography system. Other high technology companies with advanced artificial intelligence capabilities are possible entrants.

GOVERNMENT REGULATION

Regulation by governmental authorities is a significant factor in the production and marketing of the Company's products and in its ongoing research and development activities. Pharmaceutical and biological products intended for detection, therapeutic or prophylactic use for humans are governed by the FDA in the U.S.A., by the HPB in Canada, and by comparable agencies in other countries. The regulations require extensive clinical trials and other testing and government review and final approval prior to

marketing the product. This procedure takes a number of years and involves the expenditure of substantial resources. For example, as a general rule, before obtaining regulatory approval for the commercial sale of any products under development, the Company must demonstrate through preclinical and clinical studies that the product is safe and efficacious. The results from preclinical studies and early clinical trials may not be predictive of results obtained in large scale clinical trials, and there can be no assurance that the Company's or its collaborators' clinical trials will demonstrate safety and efficacy, achieve regulatory approvals or result in marketable products. Many pharmaceutical and biotechnology companies suffer significant setbacks in advanced clinical trials, even after achieving promising results in earlier trials. In addition, government regulations specify standards for manufacturing, marketing and pharmacovigilance follow-up of pharmaceutical products. Any failure by the Company or its collaborators or licensees to obtain, or any delay in obtaining, regulatory approvals could adversely affect the marketing of any products developed by the Company and its ability to receive product or royalty revenue. There can be no assurance that any of the Company's planned products will be approved by the FDA, HPB or any other governmental agency on a timely basis, if at all.

The Center for Biologics Evaluation and Research ("CBER") in the U.S.A., the Bureau of Biologics in Canada (HPB), and similar agencies in other countries regulate the manufacturing, marketing and use of vaccines. Biological License Applications or equivalent documentation must be submitted to the governmental authorities for review prior to obtaining marketing approval. Government regulations specify standards for manufacturing and marketing vaccines and biological products. These regulations set standards for proof of safety and effectiveness, establish good manufacturing practices, require inspection of vaccine manufacturing facilities and require reporting of adverse events to regulatory authorities. These government authorities also may conduct pre-release testing of vaccines and authorize the sale of each lot of vaccines.

Sales of therapeutic, vaccine and detection products outside Canada and the U.S.A are subject to regulatory requirements that vary widely from country to country. Whether or not FDA or HPB approval has been obtained, final approval of a product by comparable regulatory authorities of other countries must be obtained prior to the commencement of marketing the product in those countries. The time required to obtain any such approval may be longer or shorter than that required for FDA or HPB approval. The expected date of approval will depend on the decision from the regulatory authorities whether to review the application in an expedited or normal manner.

The FDA, HPB and similar agencies in other countries also regulate the manufacturing, marketing and use of medical devices. In the U.S.A and Canada, CADx products are also considered medical devices and therefore are subject to these regulations. These regulations generally set standards for medical devices, require proof of safety and effectiveness, establish good manufacturing practices, require inspections of device manufacturing facilities, and require reporting of device defects to regulatory authorities. The Company is also subject to various Canadian and U.S.A federal, provincial, state and local laws, regulations and recommendations relative to safe working conditions, laboratory and manufacturing practices, and the use and disposal of hazardous or potentially hazardous substances, including radioactive compounds and infectious disease agents, used in connection with the Company's research and development activities. The Company may be subject to additional government regulations resulting from future legislation or administrative action.

PHARMACEUTICAL PRICING AND REIMBURSEMENT

The business and financial condition of diagnostic, pharmaceutical, vaccine and biotechnology companies will continue to be affected by the efforts of governments and third-party payors to contain or reduce the costs of healthcare through various means. For example, in certain foreign markets pricing or profitability of prescription pharmaceuticals is subject to government control. In the United States there have been, and the Company expects that there will continue to be, a number of federal and state proposals to implement similar government control. In addition, an increasing emphasis on managed care in the United States has and will continue to increase the pressure on pharmaceutical pricing. While the Company cannot predict whether such legislative or regulatory proposals will be adopted or the effects that such proposals or managed care efforts may have on its business, the announcement of such proposals and the adoption of such proposals or efforts could have a material adverse effect on the Company's business and financial condition. Further, to the extent such proposals or efforts have a material adverse effect on other pharmaceutical companies that are prospective corporate partners for the Company, the Company's ability to establish a strategic alliance may be adversely affected. In addition, in Canada, the United States and elsewhere, sales of prescription pharmaceuticals, vaccines and diagnostic products are dependent, in part, on the availability of reimbursement to the consumer from third-party payors, such as government and private insurance plans. Third-party payors are increasingly challenging the prices charged for medical products and services. To the extent the Company succeeds in bringing products to market, there can be no assurance that these products will be considered cost-effective and that reimbursement to consumers will be available or will be sufficient to allow the Company to sell its products on a competitive basis.

TECHNOLOGY

The Company's potential therapeutic, vaccine and CADx products are in research or development. The Company is devoting its efforts to the research and development of potential therapeutic, vaccine and CADx products based upon various technological approaches. The development of new products is subject to a number of significant risks. Potential products that appear to be promising in various stages of development may not reach the market for a number of reasons. Such reasons include the possibilities that the potential product will be found ineffective or unduly toxic during preclinical or clinical trials, will fail to receive necessary regulatory approvals, will be difficult to manufacture in a large scale, will be uneconomical to market or not achieve market acceptance, or will be precluded from commercialization by proprietary rights of third parties. Competitive products may render BioChem's technology and products obsolete and non-competitive prior to potential products reaching the market. Most of the Company's potential products will require significant additional research and development efforts and significant additional preclinical and clinical testing, prior to any commercial use. There can be no assurance that the Company will successfully address any of these technological challenges, or others that may arise in the course of development.

PRODUCT LIABILITY

The use of any of the Company's potential products in clinical trials, and the sale of any approved products, may expose the Company to liability claims resulting from the use of its products. These claims might be made directly by consumers, healthcare providers or by pharmaceutical companies or others selling such products. The Company currently has liability insurance which does not exclude product liability claims with respect to sales of therapeutic, detection and vaccine products. No assurance can be given that the Company will be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect the Company against losses due to liability. There can also be no assurance that the Company will be able to maintain or obtain additional commercially reasonable product liability insurance for any products approved for marketing. A successful product liability claim or a series of claims brought against the Company could have a material adverse effect on its business, financial condition or results of operations.

INTERNATIONAL OPERATIONS

Most of the Company's therapeutic product sales are made, and the Company expects that they will continue to be made, in international markets. The Company also expects that most of its therapeutic and vaccine future products will be sold in international markets. Sales of the Company's products in international markets are subject to certain risks common to such sales, including government regulation, export and import license requirements, risks of tariffs or trade barriers and political and economic instability. Although these risks have not had any material effect on the Company to date, there can be no assurance these risks will not materially adversely affect the Company in the future.

The products of the Company are generally priced in the currency of the country in which they are sold. Accordingly, the prices of such products in Canadian dollars will vary as the value of the Canadian dollar fluctuates against such local currencies. In addition, royalty payments to BioChem by Glaxo Wellcome on 3TC and Zeffix sales worldwide (excluding Canada) are made as a percentage of sales of 3TC and Zeffix denominated in the currency of the country where sales are made. Glaxo Wellcome pays the royalties to BioChem in U.S. dollars in respect of U.S. sales and in British pounds in respect of sales in the rest of the world except Canada. There can be no assurance that there will not be increases in the value of the Canadian dollar against such currencies, reducing the Canadian dollar return to the Company on the sales of its products. Furthermore, there can be no assurance that significant fluctuations in foreign currency values will not occur that will create sufficient differences in the relative prices of the products in different countries, such that the Company or Glaxo Wellcome will find it necessary to reduce its prices in certain local currencies in order to bring the relative cost of its products into line. As at December 31, 1999, the Company did not utilize any foreign currency hedging instruments with respect to royalty revenue.

EMPLOYEES

As at December 31, 1999, the Company had a total of 638 employees divided as follows: ImmunoSystems: 294 employees, and BioChem: 344 employees.

Item 2. DESCRIPTION OF PROPERTIES

The Company and its Subsidiaries own and lease space for research, development, manufacturing, marketing and administrative purposes. The Company's corporate headquarters, administration and therapeutic operations are currently located in one owned facility in Laval, Québec, Canada, totaling 150,000 square feet. Vaccines' operations are located in different locations including in three leased facilities in Laval, Québec, Canada, totaling 30,000 square feet. The Company also owns a recently-built vaccines

manufacturing, and office facility having an overall area of approximately 118,000 square feet in Sainte-Foy, Québec, Canada. In late 1998, BioChem also opened a new vaccine development operation in Northborough, Massachusetts, in an originally leased and now owned facility of 62,000 square feet which is devoted to laboratories, a pilot plant and administrative support. See "Vaccines" and "Manufacturing" in Item 1.

Item 3. LEGAL PROCEEDINGS

On July 23, 1996, Emory University ("Emory") filed a complaint in the United States District Court for the Northern District of Georgia, alleging infringement of Emory's U.S. Patent Number 5,539,116 (the " '116 patent") by the Company and Glaxo Wellcome Inc., the Company's exclusive licensee in the U.S. to the Company's patents, patent applications and know how relating to 3TC. *Emory University v. Glaxo Wellcome Inc. and BioChem Pharma Inc.*, Civil Action No. 1:96-CV-1868 GET (N.D. Georgia). Emory alleged that the Company is infringing the '116 patent through its relationship with Glaxo Wellcome and by inducing and facilitating Glaxo Wellcome's sales and offers for sale of 3TC in the U.S. Subsequently, Emory requested a jury trial.

The Company filed its Answer, Affirmative Defenses and Counterclaims on October 15, 1996, denying Emory's allegations of patent infringement and asserting in its affirmative defenses that Emory's '116 patent is invalid and not infringed by the Company. The Company also asserted in its Counterclaims: (1) a request for a declaratory judgment that the '116 patent is invalid and not infringed; (2) a claim that Emory and Dr. Raymond Schinazi, an Emory professor, misappropriated BioChem's trade secrets relating to the Company's 3TC patent; and (3) a claim that Emory and Dr. Schinazi have committed unfair competition, commercial disparagement and deceptive trade practices through misrepresentations to the public, financial analysts and others in the financial community. The Company requested a jury trial of the issues raised by its affirmative defenses and counterclaims.

Emory and Dr. Schinazi denied the allegations in BioChem's counterclaims.

On June 5, 1997, Glaxo Wellcome filed a motion for summary judgment that the '116 patent is invalid for lack of a written description and as obvious. The Company submitted a brief in support of this motion. After the motion was fully briefed, the Court denied the motion on July 14, 1997.

After completing discovery, BioChem elected to dismiss counts (2) and (3) of its counterclaims. The parties agreed to a Stipulated Order of Dismissal, which the Court entered on February 5, 1998.

Glaxo Wellcome filed three motions for summary judgment on January 15, 1998. The Court denied Glaxo Wellcome's motion for summary judgment that the '116 patent is invalid for lack of a written description as required by 35 U.S.C. §112, but has not yet ruled on the other two motions for summary judgment that the '116 patent is invalid because: (a) it does not state a practical utility for the claimed invention as required by 35 U.S.C. §101; and (b) it was not timely filed as required by 35 U.S.C. §135(b).

On May 20, 1998, the USPTO declared an interference between the '116 Patent and a pending BioChem patent application. The BioChem application was accorded the earlier priority date and then BioChem was accorded senior party status. On May 29, 1998, BioChem filed a motion requesting the Court to stay the litigation pending completion of the interference proceedings. The Court granted the motion on July 16, 1998 and the litigation was stayed.

Although complex litigation always involves risks and uncertainties, the Company believes that it is likely ultimately to prevail following the trial or any appeal in this action. However, there can be no assurances that this action will be resolved favourably to the Company or in a timely manner. If the Company does not prevail in this litigation, the Company's business, financial condition and results of operations may be materially adversely affected.

On October 2, 1997, Emory filed an Application in the Federal Court of Australia of New South Wales District Registry General Division alleging that BioChem's Australian Patent No. 630,913, covering 3TC, is invalid and seeking an order revoking BioChem's patent. The Company filed a defense denying Emory's allegations on February 17, 1998 and will vigorously defend its patent.

BioChem is not a party to any other material litigation. See "Patents and Proprietary Information".

Item 4. CONTROL OF REGISTRANT

As far as known to BioChem, no shareholder, directly or indirectly, owned beneficially or exercised control or direction over more than 10% of the voting shares of the Corporation. The officers and directors as a group owned 4,149,663 common shares representing 4.11% of the stockholding as of December 31, 1999.

Item 5. NATURE OF TRADING MARKET

The common shares have been authorized for quotation in the United States on the Nasdaq National Market ("Nasdaq") and are traded under the symbol "BCHE". The common shares are traded in Canada on The Toronto Stock Exchange ("TSE") under the symbol "BCH". The following table sets forth, for the periods indicated, the range of high and low closing sales prices of the common shares on the Nasdaq and on the Montreal Exchange ("ME") (the Company's principal non-United States exchange until December 3, 1999.) As of December 6, 1999, the common shares no longer traded on the ME and the Company's principal non-United States Exchange became the TSE.

	ME and TSE (CAN\$)		Nasdaq (U.S.\$)	
	High	Low	High	Low
1998				
First Quarter.....	35.30	24.75	24.75	17.25
Second Quarter...	40.30	31.50	27.56	22.25
Third Quarter	40.95	23.35	27.50	14.50
Fourth Quarter....	44.30	25.00	28.88	16.38
1999				
First Quarter.....	45.40	28.25	30.25	18.88
Second Quarter...	35.25	26.45	23.63	17.38
Third Quarter	40.70	28.35	27.63	18.50
Fourth Quarter....	38.50	28.80	26.06	19.44

The following table indicates, as of March 31st, 2000, the approximate total number of holders of record of common shares, the total number of common shares outstanding, the number of holders of record of common shares with United States addresses, the portion of the outstanding common shares held in the United States, and the percentage of common shares held in the United States:

Total Number of Holders of record	Total Number of Common Shares Outstanding	Number of U.S. Holders of record	Portion of Common Shares Held in the U.S.(1)	Percentage of Common Shares Held in the U.S.
248	101,180,070	107	67,995,654	67.20%

- (1) The computation of the portion of common shares held in the United States is based upon the number of holders of record with United States addresses. United States residents may beneficially own common shares owned of record by non-United States residents.

On February 9, 1998, the Company announced its intention to issue a dividend-in-kind to its shareholders. The Company distributed, by way of dividend-in-kind, the Class A Common Shares of CliniChem Development Inc. ("CliniChem") to which capital, the Company contributed \$150 million. CliniChem was formed for the purpose of conducting the clinical development of certain therapeutic and vaccine products of BioChem with the goal of commercializing such products. The clinical development activities were contracted by CliniChem to BioChem. BioChem holds an option to acquire commercialization rights with respect to individual products on a country-by-country basis, as well as an option to purchase all of the outstanding CliniChem Class A Common Shares at a price to be set according to a predetermined formula. On January 10, 2000, BioChem announced its plan to exercise its purchase option of all the outstanding CliniChem Class A Shares when CliniChem's funding runs out, which is expected sometime before the end of 2000.

The Company has not paid any cash dividends since its inception. The Company currently does not intend to pay any cash dividends in the foreseeable future but intends to retain any future earnings to finance its development and growth. The Company's dividend policy will be reviewed periodically depending on the Company's financial position and on other factors.

The market prices for the securities of biopharmaceutical and biotechnology companies, including BioChem, have historically been highly volatile, and the market has from time to time experienced significant price and volume fluctuations that are unrelated to the operating performance of particular companies. Factors such as fluctuations in the Company's operating results, announcements of technological innovations or new therapeutic products by the Company or its competitors, clinical trial results, governmental regulation, developments in patent or other proprietary rights, public concern as to safety of drugs developed by the Company or others and general market conditions can have an adverse effect on the market price of the Common Shares. In particular, the realization of any of the risks described herein could have a material adverse impact on such market price.

Item 6. EXCHANGE CONTROLS AND OTHER LIMITATIONS AFFECTING HOLDERS OF COMMON SHARES

There is no law or governmental decree or regulation in Canada that restricts the export or import of capital, or affects the remittance of dividends, interest or other payment to a non-resident holder of common shares, other than withholding tax requirements. See "Item 7. Taxation".

There is no limitation imposed by Canadian law or by the Articles or other charter documents of the Company on the right of a non-resident to hold or vote common shares, other than as provided by the Investment Canada Act (Canada) (the "Investment Act") as amended by an Act to implement the Agreement establishing the World Trade Organization (Canada) (the "WTO Implementation Act"). The following summarizes the principal features of the Investment Act for non-residents who propose to acquire common shares.

Under the Investment Act, an investment by an individual, a government or an agency thereof or an entity that is not a "Canadian" (as defined in the Investment Act) (a "non-Canadian") may be subject to certain notification requirements or review by the minister responsible for the administration of the Investment Act (the "Minister"). Except as set forth below, an investment in common shares by a non-Canadian would be reviewable under the Investment Act if (i) such investment constitutes an acquisition of direct control of the Company where the value of the assets of the Company is at least five million dollars, or an acquisition of indirect control of the Company where the value of the assets of the Company is at least fifty million dollars, or (ii) the Federal cabinet is of the opinion that an investment that constitutes an acquisition of control is related to Canada's cultural heritage or national identity. All investments subject to review require that the Minister be satisfied that the investment is likely to be of net benefit to Canada.

Pursuant to the *Investment Act*, an investment made by a WTO Investor (as defined in the Investment Act) (a "WTO Investor") in common shares would be reviewable under the Investment Act if such investment constitutes an acquisition of direct control of BioChem and the value of the assets of BioChem is at least \$192 million. An indirect acquisition of control by a WTO Investor is not subject to review, unless the value of the assets of the Canadian portion is more than 50% of the value of the assets of the parent, in which case it is considered a direct acquisition.

The Investment Act states that a non-Canadian shall acquire control or shall be deemed to acquire control if he acquires a majority of the common shares. An acquisition of less than a majority but more than one-third of the common shares will be presumed to be an acquisition of control unless it can be established that, upon the acquisition, the Company is not in fact controlled by the acquiror through the ownership of common shares.

The notification requirements which would be applicable in the event of a proposed acquisition of control not otherwise subject to review require the potential investor to supply certain information concerning the proposed investment prior to the consummation thereof. However, the Federal cabinet retains the right to require the review of any such proposed investment that is related to cultural heritage and national identity if, within a specified period, the Federal cabinet considers it in the public interest on the recommendation of the Minister to issue an order for the review of the investment.

In certain limited circumstances transactions are exempt from both the review and notification requirements of the Investment Act, including the acquisition of common shares by a person in the ordinary course of that person's business as a trader or dealer in securities.

Item 7. TAXATION

A holder of the Company's common shares who resides in the United States will not be subject to tax under the Income Tax Act (Canada) on capital gains realized on the disposition of such common shares unless they are deemed to be "taxable Canadian property". Such common shares will be deemed to be taxable Canadian property if they are used by the non-resident holder in carrying on a business in Canada or if, at any time during the five year period immediately preceding the disposition, 25% or more of the Company's outstanding securities of any class were owned by such holder, or any group consisting of such holder and persons with whom such holder did not deal at arms' length. If the Company's shares are deemed to be "taxable Canadian property" to shareholders residing in the United States, with any resulting capital gain realized on the disposition of such shares subject to tax in Canada, the gain will be exempt from tax in Canada under the tax treaty between Canada and the United States, provided that the shares do not form part of the business property of a permanent establishment or fixed base through which the United States shareholder carries on business or performs independent personal services in Canada.

Dividends paid on the Company's common shares held by shareholders residing in the United States will be subject to Canadian withholding tax. Under the tax treaty between Canada and the United States, a withholding rate of 5% is applicable to corporations

resident in the United States, who do not have a permanent establishment in Canada, and who are beneficial owners of at least 10% of the voting stock of the Company. Under the same treaty, a withholding rate of 15% is applicable to corporations resident in the United States, who do not have a permanent establishment in Canada and with a beneficial ownership of less than 10% in the voting stock of the Company, to individuals, and to other qualified residents of the United States under the treaty.

Item 8. SELECTED FINANCIAL DATA

The following selected consolidated financial data of the Company are qualified by reference to and should be read in conjunction with the consolidated financial statements, related notes thereto and other financial data included elsewhere herein. The consolidated statement of earnings data for the years ended December 31, 1997, 1998 and 1999 are derived from, and are qualified by reference to, the audited consolidated financial statements included elsewhere in this document. The consolidated statement of earnings data for the years ended December 31, 1995 as well as December 31, 1996 are derived from the audited consolidated financial statements not included herein. The consolidated balance sheet data for the years ended December 31, 1999 and 1998 are derived from, and are qualified by reference to, the audited consolidated financial statements included elsewhere in this document. The consolidated balance sheet data for the years ended December 31, 1995, 1996 and 1997 are derived from the audited consolidated financial statements not included herein.

In January 1999, the Company adopted a formal plan to dispose of its diagnostics operations. For reporting purposes, the results and financial position of this business segment have been presented as discontinued operations. Accordingly, prior years figures have been restated to reflect this change.

	(thousands of dollars except per share information)				
	Years ended December 31,				
	1995	1996	1997	1998	1999
SELECTED CONSOLIDATED FINANCIAL DATA:					
Operating revenue.....	\$ 29,007	\$ 89,735	\$ 162,860	\$ 224,965	\$ 290,275
Earnings (loss) from continuing operations.....	(12,269)	27,722	77,680	117,898	167,199
Net income (loss).....	(4,967)	33,394	79,838	114,774	149,102
Basic earnings (loss) per common share :					
Continuing operations.....	(0.13)	0.26	0.72	1.09	1.59
Net income (loss).....	(0.05)	0.31	0.74	1.06	1.42
Fully diluted earnings (loss) per common share :					
Continuing operations.....	(0.13)	0.26	0.72	1.09	1.57
Net income (loss).....	(0.05)	0.31	0.74	1.06	1.41
Total assets.....	286,922	573,191	659,191	632,562	624,717
Long-term debt (excluding current portion).....	11,021	14,282	11,914	12,470	124,614

No cash dividends were declared for these years.

Quarterly consolidated financial information (unaudited) for the Company is as follows:

	(thousands of dollars except per share information)							
	Year ended December 31, 1998				Year ended December 31, 1999			
	4th Qtr	3 rd Qtr	2nd Qtr	1st Qtr	4th Qtr	3rd Qtr	2nd Qtr	1 st Qtr
Operating revenue.....	\$ 70,592	\$ 56,230	\$ 53,010	\$ 45,133	\$ 88,511	\$ 70,366	\$ 68,676	\$ 62,722
Earnings from continuing operations.....	39,505	28,161	28,581	21,651	68,145	32,874	35,974	30,206
Net income	37,078	27,825	27,262	22,609	51,145	32,874	35,974	29,109
Basic earnings per common share :								
Continuing operations.....	0.37	0.26	0.26	0.20	0.66	0.32	0.33	0.28
Net income.....	0.34	0.26	0.25	0.21	0.50	0.32	0.33	0.27
Fully diluted earnings per common share :								
Continuing operations.....	0.37	0.26	0.26	0.20	0.64	0.32	0.33	0.28
Net income.....	0.34	0.26	0.25	0.21	0.49	0.32	0.33	0.27

Summary of differences between generally accepted accounting principles ("GAAP") in Canada and in the United States
Consolidated statement of earnings

(thousands of dollars except per share information)					
Years ended December 31,					
	1995	1996	1997	1998	1999
Earnings (loss) from continuing operations					
Canadian GAAP.....	\$ (12,269)	\$ 27,722	\$ 77,680	\$ 117,898	\$ 167,199
Deferred foreign exchange losses.....	-	-	-	(128)	(594)
Share of loss in a company subject to significant influence.....	-	-	-	-	(5,194)
Loss on disposal of a long term investment.....	-	-	-	(126,069)	-
Deferred charges.....	-	-	-	-	(4,648)
Earnings (loss) from continuing operations					
U.S. GAAP.....	(12,269)	27,722	77,680	(8,299)	156,763
Earnings (loss) from discontinued operations					
Canadian GAAP.....	7,302	5,672	2,158	(3,124)	(18,097)
Adjustment to earnings (loss) from discontinued operations.....	2,191	120	(2,665)	1,360	347
Loss from discontinued operations					
U.S. GAAP.....	9,493	5,792	(507)	(1,764)	(17,750)
Net income (loss) – U.S. GAAP.....	(2,776)	33,514	77,173	(10,063)	139,013
Earnings (loss) per common share – U.S. GAAP					
Basic					
Continuing operations.....	(0.13)	0.26	0.72	(0.08)	1.49
Discontinued operations.....	0.10	0.05	(0.01)	(0.01)	(0.17)
Net income.....	(0.03)	0.31	0.71	(0.09)	1.32
Diluted					
Continuing operations.....	(0.13)	0.26	0.71	(0.08)	1.49
Discontinued operations.....	0.10	0.05	(0.01)	(0.01)	(0.17)
Net income.....	(0.03)	0.31	0.70	(0.09)	1.32

For a complete discussion of this matter see Note 22 to the Consolidated Financial Statements annexed hereto.

Item 9. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following analysis explains the variations in BioChem Pharma Inc. (BioChem or the Company) results of operations, financial position and cash flows between the years ended December 31, 1999, 1998 and 1997. This analysis should be read in conjunction with the information contained in BioChem's consolidated financial statements and related notes annexed hereto. Comparative figures for the years ended December 31, 1998 and 1997 have been restated to present the diagnostic operations separately, as discontinued operations. This reflects BioChem's decision in 1999 to withdraw from this business segment. Unless otherwise indicated, amounts are presented in Canadian dollars.

OVERVIEW

BioChem Pharma Inc. is an international biopharmaceutical company dedicated to the research, development and commercialization of innovative products for the prevention and treatment of human diseases with a focus in the anti-infective and anticancer areas.

In 1999, BioChem continued its growth by recording a 29% increase in operating revenue, an 11% increase in sales and royalty revenue and a 30% increase in net income in comparison to 1998, while achieving progress in the development of the Company's pipeline. In addition, the Company commenced the implementation of its corporate strategy aimed at increasing its commercialization activities through the establishment of teams that will build BioChem's global commercial development franchises.

The Company's net income amounted to \$149.1 million or \$1.42 per share in 1999, compared to \$114.8 million or \$1.06 per share in 1998. In 1997, the Company recorded net income of \$79.8 million or \$0.74 per share. The continued earnings growth is largely attributable to the steady stream of royalties on increasing worldwide sales of 3TC as well as an increase in research and development contracted by CliniChem Development Inc. Worldwide sales of 3TC, the world's most widely prescribed antiretroviral product for the

treatment of HIV infection and AIDS, amounted to U.S.\$873.1 million in 1999 versus U.S.\$808.8 million in 1998. In addition, 1999 results include gains realized on the sale of non-strategic, long-term investments in the amount of \$24.2 million, which were partially offset by losses related to the discontinued diagnostic operations in the amount of \$18.1 million.

Earnings from continuing operations before gains on the sale of long-term investments grew 21% in 1999 over 1998 compared to 52% in 1998 versus 1997. On this same basis, return on average common equity was 33% in 1999 versus 24% in 1998 and 17% in 1997.

Two significant events occurred during the year in terms of business strategy. In early 1999, the Company decided to divest its diagnostic business in order to concentrate on the anti-infective and anticancer areas. In July 1999, the hematology operations were sold and in January 2000, the Company announced an agreement in principle to sell the remaining operations to a management-led group of the subsidiary. Also, the Company completed during the year the repurchase of eight million of its common shares held by Glaxo Wellcome at a price of U.S.\$20 per share.

The Company maintains a disciplined approach to the management of its financial resources and capital. In 1999, the Company generated \$149.8 million in operating cash flow. As at December 31, 1999, the Company's cash and temporary investments amounted to \$150.3 million, total assets reached \$624.7 million and shareholders' equity stood at \$376.9 million. Shareholders' equity decreased in 1999 versus 1998 as a result of the above-mentioned share buyback. BioChem is well positioned to explore exciting long-term growth opportunities in order to further strengthen the Company's leadership position in the biopharmaceutical field and to gather momentum on its way to becoming an integrated international biopharmaceutical company.

FINANCIAL ANALYSIS

Operating revenue

Operating revenue in 1999 reached \$290.3 million, an increase of 29% in comparison to \$225.0 million in 1998. In 1997, operating revenue amounted to \$162.9 million. These increases are primarily due to higher royalty revenue from sales of 3TC and Zeffix and increased research and development contract revenue.

In 1999, sales and royalty revenue increased 11% over 1998 compared to 22% in 1998 versus 1997. This slowdown in growth is mainly reflective of 3TC's rapid post-launch sales growth, whereby at the end of 1998, three years after its commercialization, 80% of all patients undergoing AIDS therapy had 3TC as part of their treatment regimen.

Sales amounted to \$23.4 million in 1999 versus \$22.1 million in 1998 and \$20.2 million in 1997. Therapeutic product sales amounted to \$16.2 million in 1999, compared to \$14.8 million in 1998 and \$14.3 million in 1997. These sales represent the Company's share of sales under the partnership established with Glaxo Wellcome for the marketing of 3TC and Zeffix in Canada. Sales of vaccines amounted to \$7.2 million in 1999, compared to \$7.3 million in 1998 and \$5.9 million in 1997.

Royalty revenue totalled \$172.6 million in 1999 compared to \$154.1 million in 1998 and \$124.1 million in 1997. These increases are due to royalties received from Glaxo Wellcome on growing sales of 3TC and Zeffix worldwide. In 1999, worldwide sales of 3TC, including the 3TC sales portion in Combivir, a product that combines in a single tablet two antiretroviral drugs, AZT and 3TC, amounted to U.S.\$873.1 million, an increase of 8% compared to sales of U.S.\$808.8 million in 1998. In 1997 sales of 3TC amounted to U.S.\$703.0 million. Sales of 3TC in the United States represented approximately 52% of overall sales in 1999 and 1998 compared to 56% in 1997. In addition, sales of Zeffix, BioChem's discovery for the treatment of chronic hepatitis B, also contributed to the increase in royalty revenue in 1999. Sales of Zeffix totalled U.S.\$24.2 million in 1999 of which more than 80% were in Asia. The first sales of Zeffix were made in December 1998 for a total of U.S.\$2.9 million and were primarily in the United States. Development, manufacturing and marketing rights of 3TC and Zeffix are held by Glaxo Wellcome. BioChem receives royalties on worldwide sales of these products, with the exception of Canada, where a partnership has been established between the two companies.

Revenue from research and development contracts totalled \$79.9 million in 1999, compared to \$33.7 million in 1998 and \$4.0 million in 1997. These increases are mainly due to revenue from a contract signed with CliniChem Development Inc. (CliniChem) under which BioChem is carrying out research and development programs on behalf of CliniChem. BioChem recognizes costs related to these programs as research and development expenses and bills CliniChem on a fully burdened cost-plus-5% basis. BioChem has an option to acquire marketing rights to any product developed by CliniChem and another option to acquire all of CliniChem's outstanding common shares. Revenue from research and development contracts also includes revenue from an alliance formed with SmithKline Beecham for the worldwide development, manufacturing and marketing of BioChem's new nasally delivered cell-culture influenza vaccines. It also includes milestone revenue associated with out-licensed products. For more information about these agreements, please refer to the "Review of operations" section below.

Interest income amounted to \$7.5 million in 1999 versus \$9.9 million in 1998 and \$10.5 million in 1997. The decreases in interest income resulted from lower average cash positions in 1999 and 1998, due to payments of \$121.2 million with respect to the shares repurchased from Glaxo Wellcome in 1999 and \$150.0 million contributed to CliniChem in 1998.

Other revenue totalled \$6.8 million in 1999 compared to \$5.2 million in 1998 and \$4.1 million in 1997. Other revenue consists mainly of management fees, distribution revenue and gains on the disposal of certain assets. The increase in 1999 was primarily due to income distributed by GeneChem Technologies Venture Fund, L.P. The increase in 1998 in comparison to 1997 was primarily due to gains realized on the disposal of assets.

Operating Expenses

Cost of sales as a percentage of sales amounted to 61%, 53% and 52% for 1999, 1998 and 1997 respectively. These increases reflect higher costs associated with the production of vaccines.

Selling and administrative expenses amounted to \$26.1 million in 1999 compared to \$31.3 million in 1998 and \$30.2 million in 1997. The decrease in 1999 reflects a reduction in legal costs related to the Company's intellectual property protection activities.

Research and development expenses, net of any related tax credits, amounted to \$87.5 million in 1999 in comparison to \$49.1 million in 1998 and \$33.2 million in 1997. These increases are a direct result of the continuous progression in the Company's pipeline. Research and development expenses from therapeutic operations totalled \$60.2 million in 1999 compared to \$34.4 million in 1998 and \$25.6 million in 1997. These increases are directly attributable to costs associated with the development of troxacitabine and dOTC. Research and development expenses from the vaccine segment totalled \$27.3 million in 1999 compared to \$14.7 million in 1998 and \$7.6 million in 1997. The build-up of activities at the Company's vaccine development facility in Northborough, Massachusetts, primarily contributed to the increase. This facility is used for the development of the Company's recombinant protein vaccine technology program and presently has meningococcal and Group B Streptococcus vaccines under development. Research and development expenses include costs associated with product candidates that are licensed to CliniChem. For a description of the CliniChem programs see "Other product development initiatives" section. For 1999, 1998 and 1997, research and development expenses were 30%, 22% and 20% of operating revenue, respectively.

Financial expenses are presented net of foreign exchange gains. Interest expense amounted to \$2.8 million in 1999, in comparison to \$0.2 million in 1998 and \$0.5 million in 1997, whereas foreign exchange gains totalled \$3.7 million in 1999, \$0.3 million in 1998 and \$1.3 million in 1997. The increase in interest expense in 1999 is due to interest on the long-term debt assumed with respect to the shares repurchased from Glaxo Wellcome. The increase in foreign exchange gains in 1999 is due to gains realized by the Company on forward exchange contracts.

Depreciation and amortization amounted to \$8.3 million in 1999 compared to \$7.0 million in 1998 and \$3.3 million in 1997. The increase in 1999 is primarily due to depreciation related to the start-up of operations at the Company's new vaccine facility in Northborough. Most of the increase recorded in 1998 results from the start-up of operations at BioChem's vaccine production facility in Ste-Foy, near Quebec City.

Gain on sale of long-term investments totalled \$24.2 million in 1999 and represent gains realized on the sale of non-strategic long-term investments. The investments sold include Antisoma plc, a UK-based public company, for a net gain of \$16.6 million and a portion of the Company's investment in North American Vaccine, Inc., for a net gain of \$7.4 million.

The loss from discontinued operations of \$18.1 million in 1999 represents losses related to the Company's diagnostics subsidiary. The loss of this business segment from January 1 to January 29, 1999, the date on which the Company adopted a formal plan of disposal, amounted to \$1.1 million. Furthermore, a provision of \$17.0 million was recorded to reflect the loss related to the planned sale of this subsidiary. For reporting purposes, the results and financial position of this business segment are disclosed separately from those of continuing operations.

Liquidity and financial position

For the year ended December 31, 1999, operating cash flow increased 21% to \$149.8 million, compared to \$124.2 million in 1998 and \$85.3 million in 1997. These increases are directly attributable to the growth in earnings from continuing operations. Operating cash

flow represents the cash flows generated from earnings from continuing operations excluding gains on the sale of assets as well as non-cash items, principally depreciation and amortization.

Pre-acquisition free cash flow increased to \$96.9 million in 1999 compared to \$88.2 million in 1998 and \$33.4 million in 1997. Pre-acquisition free cash flow includes cash flow from operating activities after deducting capital expenditures and certain other items. Pre-acquisition free cash flow grew during the year in spite of capital expenditures increasing by \$19.0 million which was largely attributable to the building of BioChem's new vaccine development facility in Northborough.

In 1999, the Company completed its purchase for cancellation of eight million of the Company's common shares held by Glaxo Wellcome at a price of U.S.\$20 per share. An amount of U.S.\$80 million (CAN\$121.2 million) was paid during the year. The remaining balance of U.S.\$80 million is due in January 2001 and is presented as long-term debt. The Company has entered into a forward exchange contract to hedge this U.S.-denominated long-term debt from any future fluctuations of the U.S. dollar versus the Canadian dollar. As a result of this repurchase, Glaxo Wellcome's holding in the Company has decreased from 12.2% to 5.3%. Glaxo Wellcome has agreed not to dispose of its remaining holdings before December 31, 2000.

As at December 31, 1999, the Company's total assets amounted to \$624.7 million, compared with \$632.6 million as at December 31, 1998. Working capital amounted to \$241.1 million as at December 31, 1999 in comparison to \$271.1 million one year earlier. Thus, cash flow generated from operations was largely offset by cash used to repurchase the common shares held by Glaxo Wellcome. Working capital ratios were 3.72:1 as at December 31, 1999 and 3.82:1 as at December 31, 1998.

As at December 31, 1999, the Company's shareholders' equity amounted to \$376.9 million, which translates into a common equity ratio of 75% as at December 31, 1999, compared to 97% as at December 31, 1998. The decrease reflects the long-term debt assumed by the Company as a result of the above-mentioned share repurchase.

Review of operations

During the course of 1999, BioChem continued advancing toward its objective of becoming an integrated international biopharmaceutical company. The Company's product candidates progressed through the pipeline during the year. In addition, BioChem initiated the implementation of its strategy aiming at incorporating sales and commercialization capabilities into its ongoing operations, with the establishment of commercial development teams to build BioChem's oncology and anti-infective franchises.

In January 1999, BioChem reached a decision to withdraw from the diagnostic business in order to concentrate its activities in the fields of anticancer, anti-infective and vaccine products. As a first step, the Company disposed in July 1999 of the hematology operations of its diagnostics subsidiary. In January 2000, the Company announced that it had reached an agreement in principle to sell the remaining operations to a management-led group of this subsidiary.

In addition, the Company has held for several years an interest in North American Vaccine, Inc. (NAVA), a public company listed on the American Stock Exchange. During the year, the Company announced that it had entered into an agreement with Baxter International, Inc. (Baxter) to vote in favor of the acquisition by Baxter of all of the outstanding shares of NAVA. Pursuant to the agreement, Baxter has agreed to exchange each share of NAVA's common stock for an amount of cash and common stock having a value of U.S.\$7 per share. The transaction is conditional upon certain events expected to occur in 2000. During the year, BioChem sold to Baxter approximately 714,000 common shares of NAVA for proceeds of U.S.\$5 million. As at December 31, 1999, BioChem held approximately 32% of the outstanding common shares of NAVA.

The Company completed its reorganization in 1999 by consolidating into BioChem the activities of BioChem Vaccines Inc., the subsidiary responsible for the research, development, manufacturing and commercialization of vaccines. This integration will allow for the creation of synergies in administrative support functions.

Therapeutic activities

The steady growth in sales of 3TC continued in 1999, with worldwide sales totalling U.S.\$873.1 million, an increase of 8% in comparison with sales of U.S.\$808.8 million in 1998. These sales figures also include the 3TC portion of Combivir sales, the first product to combine in a single tablet two antiretroviral drugs, AZT and 3TC. 3TC, which is marketed under the Epivir trademark in most markets, is the best-selling antiretroviral therapy in the world and the cornerstone of combination therapy for the treatment of HIV infection and AIDS. As at December 31, 1999, 3TC was available in more than 100 countries and Combivir in more than 70 countries. Initial approval for the marketing of 3TC was obtained in late 1995 in both the United States and Canada.

During the year, regulatory approval of Zeffix, the first and only oral antiviral treatment for chronic hepatitis B, was obtained in many countries around the world. Amongst the countries that granted approvals to commence the commercialization of Zeffix in 1999 are China, South Korea and Taiwan as well as the countries of the European Union. According to the World Health Organization, chronic hepatitis B virus (HBV) infection, a potentially fatal liver disease, is estimated to be the ninth most common cause of death worldwide, with approximately 350 million people chronically infected. China has the world's highest incidence of HBV infection. In addition, there are some 25 million chronic carriers of HBV in industrialized countries with developed economies and health-care programs. As at December 31, 1999, Zeffix has been commercialized in more than 30 countries with sales totalling U.S.\$24.2 million in 1999. The product is known by the brand name Heptodin in China, Epivir-HBV in the United States, Heptovir in Canada and Zeffix in most other markets.

3TC and Zeffix were discovered by BioChem and the products' development, manufacturing and marketing rights are held by Glaxo Wellcome under a collaborative agreement signed between the two companies in 1990. BioChem receives royalties on sales of these products worldwide, with the exception of Canada, where a partnership has been established between the two companies.

In July 1996, Emory University (Emory) was granted a U.S. patent and filed legal proceedings in the United States against BioChem and Glaxo Wellcome alleging that sales of Epivir infringed the Emory patent and sought monetary damages. BioChem was granted a U.S. patent covering Epivir in 1991. In July 1998, at BioChem's request, the United States District Court for the Northern District of Georgia stayed Emory's patent infringement suit following a declaration by the U.S. Patent and Trademark Office (U.S.P.T.O.) of an interference between the patent granted to Emory and a pending BioChem patent application. The U.S.P.T.O. accorded the BioChem application an earlier priority date than the Emory patent and thus accorded BioChem senior party status in the interference. The Company believes that Emory's patent is invalid and, with Glaxo Wellcome, has vigorously challenged this patent before the U.S.P.T.O., in a case heard by them in November 1999. A decision is expected in 2000.

During the year, the Company has made progress in terms of developing its product pipeline. In the anticancer area, troxacitabine began Phase II clinical trials in 1999. Troxacitabine is a nucleoside analogue that was discovered by BioChem and is being developed by CliniChem to address unmet needs in cancer therapy. Clinical trials are now being conducted in various forms of leukemia as well as for the treatment of solid tumor cancers of the pancreas, prostate, colorectum, kidney, lung and skin. More recently, additional clinical trials were initiated to assess troxacitabine's antitumoral activity when used in combination with other chemotherapeutic agents.

In the anti-infective area, the development of dOTC was terminated in 1999 due to toxicity observed in monkeys during long-term toxicity studies. dOTC, a racemic mixture equally composed of (+) dOTC and (-) dOTC, is a nucleoside analogue discovered by BioChem and under development on behalf of CliniChem for use in the treatment of HIV infection and AIDS. After much investigation, the species-specificity of the toxicity seen with racemic dOTC could not be demonstrated, nor could the mechanism(s) responsible for the observed toxicity be elucidated. Given these toxicity results with racemic dOTC, and given the potent in vitro activity and good in vitro safety profile of (-) dOTC relative to (+) dOTC, it was decided to terminate the development of racemic dOTC and to continue with the development of (-) dOTC.

Phase II clinical trials of BCH-3963 commenced in 1999. BCH-3963, a peripheral-acting analgesic discovered by BioChem, is under development by AstraZeneca PLC (formerly Astra AB) under an agreement covering the research and development of pain control compounds. Development and commercialization efforts will be carried out principally by AstraZeneca PLC. The Company will receive royalties on the eventual sales of products arising from this agreement.

Several research and development collaboration agreements have been signed and strategic investments made over the past few years to enhance the Company's research and development programs and further the development of the product pipeline, especially with respect to the treatment of infectious diseases and cancer. BioChem has concluded a number of collaborations with both public and private companies, universities, as well as both Canadian and international research institutions. In 1999, for example, the Company entered into collaboration agreements with two private companies, Microbiotix, Inc., to identify and develop novel antibiotic agents, and Structural Bioinformatics Inc., for generating and optimizing lead compounds for the treatment of a human viral infectious disease utilizing its proprietary protein modeling technology.

In 1997, BioChem announced a total subscription of \$30.0 million in GeneChem Technologies Venture Fund, L.P. (GeneChem), a \$100-million fund established to invest in companies involved in genomics and related technologies. This investment expands BioChem's access to scientific breakthroughs in genomics, a field largely believed to be a significant springboard for the discovery of tomorrow's novel drugs. As at December 31, 1999, the Company had invested \$18.0 million in GeneChem and several investments made by the fund have already proven to be successful. GeneChem, which will operate for a term of 10 years, is managed by a subsidiary of BioChem.

In July 1998, BioChem began investing in a new technology platform developed by Qualia Computing, Inc. (Qualia), a privately held company, and BioChem obtained exclusive rights to commercialize any life science product developed from this platform. The Qualia technology platform is a cognitive system that utilizes artificial intelligence, neural networks and advanced information processing technologies to solve complex problems in the life science area. BioChem formed a new company, CADx Medical Systems Inc. (CADx), in July of 1999 to develop the technology into products and to commercialize the products on a worldwide basis. CADx will develop products that focus on the clinical and industrial applications of this technology. The first commercial product is Second Look™ film, a computer-aided detection system for mammography designed to assist the radiologist in the earlier diagnosis of breast cancer. Commercialization outside of the U.S. will begin in 2000. In the U.S., clinical studies required for FDA approval are scheduled to be completed in 2000. In addition, BioChem has options to other medical applications of this technology platform. For example, potential applications of this technology platform currently being investigated include drug design and genomics.

Vaccine activities

The Company's vaccine development facility in Northborough, Massachusetts, became fully operational in 1999. The first vaccine candidate developed at this location is a meningococcal vaccine designed to protect against bacterial meningitis caused by *Neisseria meningitidis*. This vaccine candidate, which is currently in Phase I clinical trials, also is the first vaccine to emerge from BioChem's recombinant protein vaccine discovery program. The second vaccine candidate coming from this program is the Group B *Streptococcus* vaccine, which is in preclinical development. These vaccine candidates are part of BioChem's novel recombinant protein-based vaccine program, the research for which is being conducted in collaboration with the Laval University Hospital Research Center (CRCHUL).

In addition, a nasally administered flu vaccine derived from cell culture is presently in Phase I clinical trials. This vaccine candidate is being developed in collaboration with SmithKline Beecham (SB) pursuant to an agreement signed in 1998 for the co-development of BioChem's new cell-culture influenza vaccination technologies. Under the terms of this agreement, BioChem and SB will co-operate in marketing the products in the United States, after a period of joint development by both parties. In Europe and in the rest of the world, SB holds exclusive marketing rights. Furthermore, SB will manufacture products that are intended for various global markets, except Canada. Proceeds from the sale of the vaccine in the United States and in the rest of the world, excluding Canada, will be allocated among the two partners according to a predetermined formula. In Canada, BioChem will maintain exclusive rights to this vaccine, including production and marketing rights. Under the agreement, SB has made an initial payment to BioChem and future milestone payments are scheduled as the product is developed. Once approved, this new cell-culture manufacturing technology should allow BioChem to produce the vaccine more rapidly and in the event of a pandemic, to manufacture the vaccine in greater volume with less lead time. As for the nasal delivery technology, it should eliminate the discomfort associated with injectable vaccines and confer mucosal immunity in addition to systemic immunity.

Other product development initiatives

During 1998, BioChem announced the creation of a new company, CliniChem Development Inc. (CliniChem). This new entity was formed to continue the research and development of a number of therapeutic and vaccine candidates initially discovered or acquired by BioChem with a goal of commercializing such products. Pursuant to a Technology License agreement, BioChem granted CliniChem a perpetual, exclusive license to use BioChem's technology to carry out research and development programs for these therapeutic and vaccine product candidates, and then to manufacture and commercialize these products worldwide. CliniChem has contracted its R&D activities to BioChem under a research and development agreement. The therapeutic and vaccine product candidates involved are dOTC, troxacitabine, recombinant protein vaccines against *Neisseria meningitidis*, *Streptococcus pneumoniae*, *Haemophilus influenzae* non-typeable, Group B *Streptococcus* and *Chlamydia pneumoniae* as well as an angiogenesis inhibitor. In 1999, BCH-13520, an anti-HIV compound, and the Second Look technology, a computer-assisted breast cancer detection system, were added to the products licensed to CliniChem. BioChem holds an option to acquire the rights to any product developed by CliniChem in return for a royalty payment as well as an option to acquire all of CliniChem's outstanding common shares at any time up to and including March 31, 2003. BioChem made a capital contribution to CliniChem amounting to \$150.0 million in June 1998. CliniChem's shares were subsequently distributed to BioChem's shareholders by way of a dividend in kind.

The Company recently announced its plan to exercise its option to repurchase all of CliniChem's shares upon depletion of CliniChem's financial resources, which is expected sometime before the end of 2000. BioChem may also from time to time purchase CliniChem common stock in the open market or privately negotiated transactions or otherwise as it deems appropriate.

OUTLOOK

BioChem's objective is to become an integrated global biopharmaceutical company, active in the research and development of innovative products for human diseases that will address vital needs in the areas of infectious diseases and cancer. To achieve this objective, the Company intends to maintain a larger share of its rights on products resulting from in-house research and development activities, while it develops the internal resources required to directly market and commercialize its products in North America. The Company intends to establish strategic alliances and partnerships for the development and commercialization of its products in Europe and other major overseas markets. BioChem expects that the implementation of this corporate strategy should further enhance its own profitability and increase shareholder value.

The Company expects that research and development collaboration agreements, in-licensing and other means of product acquisitions will play an important role in ensuring that the pipeline of new drugs is full. This is, of course, in addition to its ongoing internal research and development activities.

The Company believes that it has laid a strong foundation for sustainable long-term growth. Over the next few years, growth should come primarily from royalties collected on the sale of Zeffix, the first and only oral antiviral treatment for chronic hepatitis B. Sales of Zeffix are expected to rise as regulatory approvals are being obtained in more and more countries, in addition to a growing number of approvals from government for reimbursement. 3TC, the cornerstone of combination therapy for HIV infection and AIDS, remains the best-selling antiretroviral drug in the world. It is expected that 3TC sales will continue to grow according to studies that indicate an increasing number of individuals living with HIV have either not yet been diagnosed or are not yet receiving treatment. In addition, the future introduction of new compounds which could result in the creation of new combination drugs, that would include 3TC and ease the treatment compliance, would sustain sales growth in the future. At the end of 1999, Glaxo Wellcome submitted Trizivir, a tablet combining three antiretroviral agents including 3TC, for regulatory approval in the United States, Canada and the European Union.

Expected future growth in operating revenue over the next few years should support the development and commercialization activities of BioChem's promising compounds in its pipeline. The anticipated commercialization of these compounds will provide for the future growth of BioChem. BioChem's solid financial position, as well as its increasing cash flow from operations, place the Company in a good position to pursue its operational objectives.

Risk factors

The future performance of BioChem is dependent on a number of factors, including royalty revenue, product sales levels, initiation or termination of collaborative agreements, research and development programs and timely regulatory approvals for various products. It should be further noted that royalty revenue is based on the level of product sales by the licensee, over which the Company has no control.

Significant funding is required for ongoing research and development, clinical trials, commercial manufacturing of products and the establishment of sales and marketing teams necessary for the launch and ongoing sales of new products. In addition, major financial resources are necessary until such time as the products are commercialized and sold successfully, and sales are sufficient to generate profits.

Product research and development involves a high degree of risk, and returns to investors are dependent upon successful development of the Company's products. There can be no assurance that development of any product will be successfully completed or that regulatory approval of any of the Company's products under development will be obtained. Furthermore, there can be no assurance that existing products or new products developed by BioChem's competitors will not be more effective, or more effectively marketed and sold, than any that may be developed by the Company.

Because of the length of time and expense associated with bringing new products through development and regulatory approval to the marketplace, the Company places considerable importance on obtaining and maintaining patent and trade secret protection for its significant discoveries. There can be no assurance that any pending patent application filed by the Company will mature into issued patents. Furthermore, there can be no assurance that the Company's existing or pending patent claims will offer protection against competition, or will not be designed around or infringed upon by others. The commercial success of the Company will also depend in part on the Company not infringing patents or proprietary rights of others. There can be no assurance that the Company will be able to obtain a license to any third-party patents or technology that it may require to conduct its business or that such patents or technology will be available at a reasonable cost. The outcome of the legal proceedings initiated by Emory University against the Company and Glaxo Wellcome for alleged patent infringement could have a significant impact on the Company.

Worldwide changes in health-care policies are an ongoing source of challenge not only for BioChem, but for other pharmaceutical and biopharmaceutical companies as well. In general, the pressure to contain health-care costs worldwide is an ongoing source of uncertainty and challenge.

Volatility of share price

In the past, the market price of the Company's shares has been subject to significant volatility. Any differential between the Company's financial or scientific results and the expectations of securities analysts could have a significant impact on the trading price of the Company's shares. Changes in accounting standards could or could not have an impact on the presentation of the financial statements.

Cash flows and financial resources

Since inception, the Company has funded research and development, operations, capital expenditures and investment activities through public and private sales of equity, revenue from research and development contracts, sales of products and long-term investments, interest revenue, bank loans and, more recently and more significantly, royalty revenue and funds from operations.

The Company believes that cash, temporary investments and long-term investments, together with funds provided by operations, will be sufficient to meet operating cash requirements. These cash requirements include the development of existing and new products through internal research and development activities, selective product in-licensing, research and development collaborations, capital expenditures, repayment of its debt and repurchase of the CliniChem shares.

Safe harbor statement

The matters discussed in this report on Form 20-F and more specifically in this management's discussion and analysis of financial condition and results of operations are, by nature, forward-looking. For the reasons mentioned above and elsewhere in this report on Form 20-F, as well as for other unforeseeable reasons, actual results may differ materially.

Item 10. DIRECTORS AND OFFICERS OF THE COMPANY

DIRECTORS

The name, municipality of residence and position with the Company of each of the directors and their respective holding of Common Shares of the Corporation owned, controlled or directed as at March 31, 2000 are presented below:

Name	Principal Occupation	Director since	Number of Voting Shares Owned or Controlled	Deferred Share Units Owned(5)
Francesco Bellini, O.C., Ph.D.(1)(3) Town of Mount-Royal, Québec	Chief Executive Officer and Director	1986	2,883,600	22,955
Bernard Canavan, M.D. (1) Jupiter Island, Florida	Director	1997	--	1,250
Gervais Dionne, Ph.D. (1) Saint-Laurent, Québec	Chief Scientific Officer and Director	1991	877,752	1,654
Jean-Louis Fontaine(1) Westmount, Québec	Chairman of the Board	1986	273,760	1,648
Jean-François Formela, M.D. (3) Boston, Massachusetts	Director	1997	--	421
The Honorable James A. Grant, P.C., Q.C.(1)(3) Westmount, Québec	Director	1986	2,000	421
Roderick L. Henry(2)(4) Knowlton, Québec	Director	1992	4,000	--
Jacques R. Lapointe Hudson, Québec	President and Chief Operating Officer and Director	1998	--	5,614
Michel Perron(2) (4) Westmount, Québec	Director	1993	22,000	--
J. Robert S. Prichard, O.C. (4) Toronto, Ontario	Director	1999	--	667
Guy Savard, O.C.(2)(3) Westmount, Québec	Director	1995		1,366
Gérard Veilleux, O.C. (2) Montréal, Québec	Director	1999	--	--

Notes:

- (1) Member of the Executive Committee.
- (2) Member of the Audit Committee.
- (3) Member of the Human Resources and Compensation Committee.
- (4) Member of the Corporate Governance Committee.
- (5) For a description of the Deferred Share Unit Plan ("DSU Plan") see Note 13 to the Consolidated Financial Statements annexed hereto.

OFFICERS

The name, municipality of residence and position held of each of the officers of the Company are presented below:

Name and Municipality of Residence	Position
Frederick J. Andrew Morin Heights, Québec	Chief Financial Officer
Francesco Bellini, O.C., Ph.D. Town of Mount-Royal, Québec	Chief Executive Officer and Director
Gervais Dionne, Ph.D. Saint-Laurent, Québec	Chief Scientific Officer and Director
Jacques R. Lapointe Hudson, Québec	President and Chief Operating Officer and Director
François Legault Outremont, Québec	Executive Vice-President, Corporate Development and Investments
Guy Lord Westmount, Québec	Senior Vice-President, Corporate Affairs and Secretary
Charles-A. Tessier Outremont, Québec	Vice-President Legal Affairs and General Counsel

Frederick J. Andrew, joined BioChem in 1997 as Chief Financial Officer. Prior to joining BioChem, he was Vice-President and Treasurer of BCE Inc. from 1991 to 1997, Corporate Treasurer of Bell Canada from 1984 to 1991 and occupied various positions within the BCE Inc. group of companies from 1964 to 1984. Mr. Andrew received a B.A. in economics from York University in 1964.

Francesco Bellini, O.C., Ph.D., a co-founder of the Company, joined the Company as President and Chief Executive Officer in September 1986. From 1984 to September of 1986, Dr. Bellini was the Director of the Biochemicals Division at the Institut Armand-Frappier and, from 1968 to 1984, he was a research scientist with Ayerst Laboratories. Dr. Bellini is Vice-Chairman of the Board of NAVA and is a director of Molson Inc. and Industrial Alliance Life Insurance Co. Dr. Bellini received a B.Sc. in chemistry from Loyola College in Montréal in 1972, and a Ph.D. in organic chemistry from the University of New Brunswick in 1977.

Bernard Canavan, M.D., is a retired executive of American Home Products Corporation where he worked from 1969 to 1994 and where he was its President and Chief Operating Officer from 1990 until his retirement in 1994. Mr. Canavan received in 1960 an M.B. Ch.B. and has a Bachelor of Medicine and Surgery from the University of Edinburgh. He has been a director of the Company since 1997.

Gervais Dionne, Ph.D., a co-founder of the Company, joined the Company as Vice-President, Research and Development, in 1986 and was recently appointed Chief Scientific Officer. From 1985 to 1986, he was the Chemical Products Director at the Institut Armand-Frappier, and from 1984 to 1985, he was a Group Leader Research Scientist with Bio-Mega Inc. From 1976 until 1984, Dr. Dionne was a research scientist with Ayerst Laboratories. Dr. Dionne is a director of Scriptgen Pharmaceuticals Inc. and of NAVA. Dr. Dionne received a B.Sc. in chemistry from the University of Montréal in 1971 and a Ph.D. in organic chemistry from Laval University in 1976.

Jean-Louis Fontaine is Chairman of the Board of Directors. He has been a director of the Company since 1986. Mr. Fontaine also serves as the Vice-Chairman Corporate Affairs of Bombardier Inc. He was a Vice-President with Bombardier Inc. from June 1977 until August 1988. Bombardier Inc. is engaged in the design, development, manufacturing and marketing of transportation equipment, civil and military aerospace products and motorized consumer products. Mr. Fontaine is Chairman of the Board of Université de Sherbrooke and is also a director of AXA Insurance Inc. and Héroux Inc. Mr. Fontaine received a B.Sc. in mechanical engineering from the University of Sherbrooke in 1963, and an MBA from the University of Western Ontario in 1977.

Jean-François Formela, M.D., has been a director of the Company since 1997. He has been the General Partner of Atlas Venture Fund III, L.P. since 1993 and was previously the Senior Director, Medical Marketing and Scientific Affairs for Schering-Plough U.S., which he joined in 1989. Mr. Formela graduated in 1984 as a medical doctor from the École de médecine de l'Université de Paris and received an M.B.A. in 1989 from the Columbia Business School.

The Honorable James A. Grant, P.C., Q.C. has been a director of the Company since 1986. He is a partner with the law firm of Stikeman, Elliott and has been with that firm since 1962. He is a director of United Dominion Industries Ltd, CAE Industries Ltd., and a Canadian bank. Mr. Grant received a B.A. in arts in 1958 and a B.C.L. in law in 1961, both from McGill University.

Roderick L. Henry has been a director of the Company since 1991. He is Chairman of ATLAS COPCO CANADA Inc., a wholesaler of equipment and machinery and also the President of Henrod Investments Inc., an investment company. Until 1997 Mr. Henry was the Chairman and Chief Executive Officer of Wire Rope Industries, a manufacturer of wire rope. He also serves as a director of CAE Industries Ltd, Atlas Copco Canada Ltd, Westroc Industries Ltd. and Brome Lake Ducks Ltd.

Jacques R. Lapointe joined the Company on May 4, 1998 as President and Chief Operating Officer. Prior to joining the Company, he was with Glaxo Wellcome, since 1986 as President and Chief Executive Officer of Glaxo Canada Inc., then from 1994 as Managing Director and Chairman of Glaxo Wellcome UK Limited, then for Glaxo Wellcome plc as Regional Director with responsibilities for Australia, New Zealand and South Africa until October 1996 when he took over as Business Development and Information Systems Director with responsibilities for Global Commercial Development, OTC and Information Systems worldwide. Mr. Lapointe has a B. Commerce and a MBA (Finance) from Concordia University.

François Legault joined the Company in 1987 as Vice-President, Finance and Treasurer, then became the Executive Vice-President, Finance, Administration and Treasurer until September 1997 when he was named Executive Vice-President, Investments and Subsidiaries. In 1998 he was appointed Executive Vice-President Corporate Development and Investments. Prior to joining the Company, he was Finance Director of Société Québécoise des Transports from 1984 to 1987, and was a chartered accountant with Coopers & Lybrand from 1978 to 1984. Mr. Legault is a director of NAVA. He received a BAA. in business and accounting from École des Hautes Études Commerciales in Montréal in 1978 and was admitted as a Chartered Accountant to the Ordre des Comptables Agréés du Québec in 1980.

Guy Lord has been a director of the Company from 1989 to 1999. In March 1999 he was appointed Senior Vice-President, Corporate Affairs and Secretary of the Company. Until this appointment, he has been a partner with the law firm of Desjardins Ducharme Stein Monast since 1993 and was with the law firm of Clark Lord Rochefort Fortier from 1989 to 1993. Prior to that, Mr. Lord was a partner and National Director of Research in Taxation with the accounting firm of Samson Bélair/Deloitte & Touche from 1986 to 1989. Mr. Lord received a B.A. in 1959 from the University of Montréal, a law degree in 1962 from the University of Montréal and a D. Phil. from Oxford University in 1969. He is a member of the Barreau du Québec and the Canadian Bar Association.

Michel Perron has been a director of the Company since 1993. He is Chairman and Chief Executive Officer of Somiper Inc., an investment company. Mr. Perron was Chairman and Chief Executive Officer of Uniforêt Inc., a lumber business, and was also President and Chief Executive Officer of Normick Perron Inc., a lumber business, until 1990. Mr. Perron is a director of Natcan Trust and The National Bank of Canada. Mr. Perron received a degree in Commerce from St-Jérôme College, Kitchener, Ontario.

J. Robert S. Prichard, O.C., has been a director of the Company since July 1999. He was appointed President of the University of Toronto in 1990 after having served as dean of the Faculty of Law of that university from 1984 to 1990. He has been associated with the University of Toronto in various academic capacities since 1979. Mr. Prichard received a Bachelor degree in Law from the University of Toronto and a Masters from the Yale Law School. He also holds a MBA from the University of Chicago Graduate School of Business. Mr. Prichard is a director of numerous public and private organizations.

Guy Savard, O.C., has been a director of the Company since 1995. Mr. Savard is Vice-Chairman and Chairman Québec operations of Merrill Lynch Canada Inc. since 1998. In February 1995, he was appointed Vice-Chairman, President Québec Division and director of Midland Walwyn Capital Inc. From 1990 to January 1995, he was President, Chief Operating Officer and Director of Caisse de dépôt et placement du Québec. Mr. Savard is also a director of COBEPA S.A., Industrial-Alliance Life Insurance Company, Réno-Dépôt inc., Ritvik Toys Inc., and the Business Development Bank of Canada. Mr. Savard is a Fellow of l'Ordre des Comptables Agréés du Québec. He graduated from Université Laval with a Bachelor of Commerce, a Master's degree in Commercial Sciences and Accounting Sciences. He perfected his management training at Harvard University in Boston.

Charles-A. Tessier is Vice-President Legal Affairs and General Counsel of the Company. He joined the Company as Vice-President, Legal Affairs and Corporate Secretary in 1996. Prior to joining the Company, he was practicing commercial law in his own law firm from 1980 to 1988, and from 1988 until 1996, he was Vice-President, Secretary and General Counsel of DMR Group Inc., a multinational company in information technology. Mr. Tessier received a B.A. in Administration in 1976 and a law degree in 1979 from the University of Ottawa. He is a member of the Barreau du Québec and the Canadian Bar Association.

Gérard Veilleux, O.C., is a director of the Company since July 1999. He has been President of Power Communications Inc. and Vice-President of Power Corporation of Canada, a diversified management and holding company, since June 1994. He served as President and CEO of the Canadian Broadcasting Corporation from 1989 to 1993. From 1986 to 1989, he was Secretary of the Treasury Board, an agency of the Federal Government of Canada, and from 1982 to 1986 he served as Secretary to the Cabinet for Federal-Provincial Relations and Deputy clerk of the Privy Council. From 1963 to 1982, Mr. Veilleux worked in various capacities in the public service of the Federal Government of Canada. Mr. Veilleux has a Master's degree in Public Administration from Carleton University in Ottawa and a Bachelor of Commerce from Laval University. Mr. Veilleux is director of several public and private companies as well as a member of the Board of Governors of McGill University.

All members of the Board of Directors hold office until the next annual meeting of shareholders to be held May 24, 2000 or the election of their successors. Executive officers serve at the discretion of the Board of Directors. There are no family relationships among any of the directors and executive officers of the Company.

The Executive Committee consists of five directors who are appointed annually by the Board of Directors. The Executive Committee may exercise all of the powers of the Board of Directors in respect of the management and direction of the business of the Company between meetings of the Board of Directors, subject to certain restrictions under the Canada Business Corporations Act.

The Audit Committee consists of four directors who are appointed annually by the Board of Directors. None of the members of the Audit Committee is an officer or employee of the Company or its affiliates. This committee reviews the internal accounting procedures of the Company, reviews and approves the quarterly financial statements, reviews and submits for Board's approval the annual financial statements, manages risks, acts as an intermediary between the Board and the external auditors and proposes the nomination of the external auditors and their remuneration.

The Human Resources and Compensation Committee consists of four directors who are appointed annually by the Board of Directors. The Human Resources and Compensation Committee reviews and recommends to the Board the compensation and benefits of all officers of the Company and reviews general policy matters relating to compensation and benefits of employees of the Company. The Committee provides advice to the Board on succession planning for officers and is responsible for the administration of the stock option plan. For a description of The Stock Option Plan, See item 12.

The Corporate Governance Committee consists of three directors who are appointed annually by the Board of Directors. This committee is responsible for formulating the approach of the Company to governance issues. This committee examines any issue related to corporate governance and makes recommendations to the Board of Directors.

The Company maintains directors and officers liability insurance against claims made in the aggregate amount of \$75,000,000 per occurrence and a maximum of \$75,000,000 per year.

Item 11. COMPENSATION OF DIRECTORS AND OFFICERS

COMPENSATION OF EXECUTIVE OFFICERS

The following table sets out details of the total compensation paid during the past three years to the Chief Executive Officer and to the four other most highly compensated executive officers (collectively the "named executive officers").

Name and Principal Position	Year	Annual Compensation			Long-Term Compensation Awards		Deferred Share Units(3)
		Salary (\$)	Bonus (\$)	Other(1) (\$)	Securities Under Options(2) (#)	(# units)	
Francesco Bellini(4) Chief Executive Officer	1999	1,016,624	636,794	--	--	10,565	499,006
	1998	800,000	400,000	--	--	12,390	505,760
	1997	772,935	740,000	--	1,500,000	--	--
Jacques R. Lapointe(5) President and Chief Operating Officer	1999	513,000	--	--	--	2,756	130,174
	1998	333,333	100,000	--	600,000	2,858	116,666
Frederick J. Andrew (6) Chief Financial Officer	1999	311,000	--	--	--	1,423	67,200
	1998	303,000	--	--	50,000	2,450	100,000
	1997	88,846	--	--	100,000	--	--
François Legault Executive Vice-President, Corporate Development and Investments	1999	235,000	135,000	--	15,000	1,084	51,200
	1998	220,000	--	--	20,000	2,450	100,000
	1997	190,000	74,100	--	20,000	--	--
Gervais Dionne Chief Scientific Officer	1999	250,000	100,000	--	15,000	--	--
	1998	225,000	--	--	20,000	1,654	67,500
	1997	210,000	63,000	--	20,000	--	--

Notes:

- (1) The perquisites and other personal benefits do not exceed the lesser of \$50,000 and 10% of the total of the annual salary and bonus for any of the named executive officers.
- (2) The securities under options represent shares which may be acquired pursuant to the exercise of the stock options granted under the Stock Option Plan.
- (3) For the description of the Deferred Share Unit Plan ("DSU Plan"), see Note 13 to the Consolidated Financial Statements annexed hereto. This DSU Plan was implemented in 1998.
- (4) The Corporation has entered into an employment agreement with Dr. Francesco Bellini, to serve as Chief Executive Officer for a fixed term commencing on February 1, 1997 and terminating on January 31, 2000. The agreement is renewable annually thereafter unless either party gives at least three months' notice to the other. This employment agreement provided for an annual base salary of \$800,000 and for the payment of an annual bonus equal to \$400,000 in the first year provided Dr. Bellini had performed his duties as Chief Executive Officer for the entire year, and an amount not to exceed \$400,000 calculated as a function of the Corporation's results in achieving the forecasted net earnings for the year in question. For the second and third year of the employment term, the base salary and the bonuses were subject to annual increases based on the percentage increase over the previous year in prevailing compensation packages for chief executive officers of leading North American biopharmaceutical companies, in accordance with a formula agreed upon by Dr. Bellini and the Board of Directors. If specific strategic objectives of the Corporation specified in the employment agreement are met, Dr. Bellini is eligible to a special bonus calculated on an agreed upon formula. The employment agreement also provides for the payment of the greater of (i) Dr. Bellini's salary and bonuses to the expiration of the agreement and (ii) a lump sum payment of two years' salary and bonuses, in the event of termination other than for cause in accordance with the laws of the province of Québec or in the event of the non-renewal at the demand of the

Corporation of the employment agreement. In the event of termination or resignation for good reason (as defined under the agreement) following a change of control, the agreement provides for the payment to Dr. Bellini of a lump sum severance amount equal to three times his full base salary and bonuses at the rate in effect at the time of termination or resignation for good reason. Dr. Francesco Bellini was also granted, at signature of the agreement, options to purchase a total of 1,500,000 common shares at \$35.625 per share. See "Stock Option Plan". On January 18, 2000, Dr. Bellini's employment agreement was renewed for an additional term of two years terminating January 31, 2002 on terms and conditions substantially similar to those described above except that the termination notice is extended to six months and that the provisions with respect to the increases in salary and bonuses do not apply.

(5) Mr. Lapointe was hired in May 1998.

(6) Mr. Andrew was hired in September 1997.

(7) Amount of bonus deferred.

The following table sets forth information concerning the grant of options in the fiscal year ended December 31, 1999 to the named executive officers.

Option Grants During the Fiscal Year

Name	Securities Under Options Granted (#)	% of Total Options Granted in Financial Year	Exercise Price (\$/Security)	Market Value of Securities on the Date of Grant (\$/Security)	Expiration Date
Frederick J. Andrew	--	--	--	--	--
Francesco Bellini	--	--	--	--	--
Gervais Dionne	15,000	3.39%	40.40	40.40	Jan. 2009
Jacques R. Lapointe	--	--	--	--	--
François Legault	15,000	3.39%	40.40	40.40	Jan. 2009

The following table sets forth the exercise of options to purchase common shares during the fiscal year ended December 31, 1999 to the named executive officers.

Aggregated Option Exercises During the Fiscal Year

Securities Acquired on Exercise	Aggregate Value Realized	Unexercised Options at Fiscal Year-End Exercisable/Unexercisable	Value of Unexercised in-the-Money Options at Fiscal Year-End Exercisable/Unexercisable
Name (#)	(\$)	(#)	(\$)
Francesco Bellini —	—	2,100,000/900,000	30,112,500/0.00
Jacques R. Lapointe —	—	120,000/480,000	0.00/0.00
Frederick J. Andrew —	—	50,000/100,000	34,000/136,000
François Legault —	—	158,000/73,000	1,988,675/64,525
Gervais Dionne —	—	212,000/73,000	2,778,225/64,525

The aggregate compensation paid by the Company and its subsidiaries to the Company's seven full-time executive officers for services rendered during the year ended December 31, 1999 was \$4,310,906.

The value of the benefits received in respect of the year ended December 31, 1999 by these executive officers of the Company did not exceed 10% of the above-mentioned cash remuneration.

TERMINATION OF EMPLOYMENT IN CASE OF CHANGE OF CONTROL

In October 1999, the Board of Directors authorized the Corporation to establish special compensation arrangements for five executive officers in case of change of control. These arrangements provide for severance payments to be received by them in the event of termination of employment (other than for death, disability or voluntary retirement) within 18 months following a change of control. An executive officer would be entitled to receive, in such circumstances, a lump sum severance payment equal to two times the highest of: (i) the aggregate amount of his annual salary and target bonuses in the then current year and (ii) the average of the aggregate amount of his annual salary and said bonuses in the two fiscal years of the Corporation preceding the change of control. He will also be entitled to receive some payments and benefits related to medical, insurance, pension and similar plans applicable to the executive for a period ending on the earlier of two years from the date of termination of the executive and the date when the executive shall commence employment with another corporation. A change of control means the acquisition of shares of the Corporation carrying thirty three and one-third percent (33 1/3%) or more of the votes or thirty three and one-third percent (33 1/3%) or more of the assets of the Corporation or the ceasing of the then directors to constitute at least fifty percent (50%) of the Board of Directors of the Corporation.

COMPENSATION OF DIRECTORS

In 1999, external Directors received each a retainer fee of \$18,000 per year as well as a fee of \$1,000 for attending each meeting of the Board of Directors or of a committee of the Board. The Chairman of the Board also received an additional \$7,000 annual retainer fee. The aggregate amount of such compensation was \$305,589 for the fiscal year ended December 31, 1999. Under the DSU Plan, directors may elect to defer all or a portion of their annual retainer and all of their meeting fees.

External Directors are granted annually, under the Stock Option Plan, 2,000 options each, plus an additional 2,000 options in the case of the Chairman of the Board. Chairmen of committees of the Board are granted an additional 1,000 options each year. When an external director is first elected to the Board, he/she is granted 8,000 options. For the fiscal year ended December 31, 1999, 44,500 options were as such granted, of which 23,500 were granted at an exercise price of \$28.50 and 21,000 options were granted at the exercise price of \$33.00. The exercise price is equal to the closing price on the day preceding the grant.

Item 12. OPTIONS TO PURCHASE SECURITIES FROM THE COMPANY OR SUBSIDIARIES

STOCK OPTION PLAN

The Stock Option Plan of the Company (the "Plan") provides for the granting of options to purchase a maximum of 19,250,000 common shares of the Company. Beneficiaries of the Plan are the directors, officers and full-time employees or regular employees of the Company or its subsidiaries as well as external consultants, engaged by the Company or its subsidiaries to provide ongoing *bona fide* management and consulting services.

The Board of Directors, in its discretion, grants options following the recommendation of the Human Resources and Compensation Committee which administers the Plan. Under the Plan, the options may be exercised progressively but within a maximum period of ten years from the date of the grant. The exercise price of the options, which cannot be lower than the market price on the day immediately preceding the day on which the options are granted, must be paid upon exercise.

As of March 31, 2000 there were outstanding under the Plan options to purchase an aggregate of 6,876,445 common shares at prices ranging from \$6.19 to \$45.25 per share, and expiring at various dates through March 2010. Of such options, as of March 31, 2000 the directors and executive officers as a group held 4,860,800 options to purchase common shares. The following named executive officers have the set forth options under the Plan:

Executive Officer	Number of Options	Price Range	Expiration Dates Range
Frederick J. Andrew	150,000	\$27.80 to \$36.00	September 2007 to September 2008
Francesco Bellini	3,000,000	\$11.13 to \$35.63	December 2001 to January 2007
Gervais Dionne	335,000	\$6.94 to \$45.25	February 2002 to January 2010
Jacques R. Lapointe	600,000	\$32.50	March 2008
François Legault	281,000	\$6.94 to \$45.25	February 2002 to January 2010

For a complete discussion of the Stock Option Plan see Note 13 to the Consolidated Financial Statements annexed hereto.

SHAREHOLDER RIGHTS PLAN

The shareholders of the Company approved in 1995 a Shareholder Rights Plan ("Rights Plan") which was amended with shareholder approval in April 1998. Under the Rights Plan, one common share purchase right was issued on April 28, 1995 in respect of each outstanding common share of the Company and a share purchase right for each common share of the Company issued thereafter. These rights are exercisable in a situation of a public take-over bid for voting shares of the Company where certain conditions are not respected. Each right entitles the holder to purchase, from the Company, one common share at a specific price, subject to certain anti-dilution adjustments. The Rights Plan expires on June 30, 2003 or unless terminated earlier by the Company's Board of Directors. The purpose of the Rights Plan is to require anyone, who seeks to acquire 20% or more of the Company's voting shares, to present a bid complying with specific provisions. The objectives of the Rights Plan are to ensure that, in the event of a takeover bid of the Company, all shareholders will receive full and fair value for their shares and will not be subject to abusive or coercive takeover strategies and that the Board of Directors, on behalf of the Company and all its shareholders, will have the time and opportunity to evaluate the bid and its effects, to seek out alternative bidders and to explore, develop and evaluate other ways of maximizing shareholder value.

Item 13. INTEREST OF MANAGEMENT IN CERTAIN TRANSACTIONS

At least since January 1, 1997, there has been no material transaction involving the Company or any of its subsidiaries and one of its directors, officers, principal shareholders (as stated in Item 4. Control of Registrant), or their close family, nor is any presently proposed such transaction, other than the following:

- One director, James A. Grant, is partner in the law firm Stikeman, Elliott, which firm provides professional services to the Company on an on-going basis;
- One director, Guy Savard, is a senior officer of Merrill Lynch Canada Inc., which provides financial services to the Company from time to time.
- Until June 11, 1999, Paul N. Lucas, a senior officer of Glaxo Wellcome Inc., was a director of the Company. Glaxo Wellcome Inc., is the partner of BioChem for the distribution of 3TC, Combivir and Zeffix in Canada.

For a complete discussion on this matter see Note 17 to the annexed Consolidated Financial Statements.

Except Dr. Claude H. Vezeau, a former employee, no director or officer, or any associate of them, is or has been indebted to the Company or its subsidiaries, since at least January 1, 1996. As the new vaccine center of the Company opened in the Québec City area in July 1997, the President of Vaccines, Dr. Claude H. Vezeau, was relocated with his family to the Québec City area. For that purpose, the Company made a \$100,000 loan to Dr. Vezeau to purchase a house. The interests on this loan are payable monthly and the principal is reimbursable in full June 9, 2001.

PART II

Item 14. DESCRIPTION OF SECURITIES

Not applicable.

PART III

Item 15. DEFAULTS UPON SENIOR SECURITIES

Not applicable

Item 16. CHANGES IN SECURITIES AND CHANGES IN SECURITY FOR REGISTERED SECURITIES

A two-for-one stock split of the common shares took effect as of the close of business on April 7, 1997. On December 31, 1997, the Company completed a legal reorganization to change its governing act from the Québec Companies Act to the Canada Business Corporations Act. For information regarding certain changes in the rights of holders of common shares of BioChem, see the Company's Management Proxy Circular dated March 31, 1997.

PART IV

Item 17. FINANCIAL STATEMENTS

The financial statements of the Company are annexed hereto and have been prepared by the Company in accordance with generally accepted accounting principles in Canada, which differ in certain respects from generally accepted accounting principles in the United States as outlined in the financial statements. The table of contents to the consolidated financial statements and accompanying notes to the consolidated financial statements appears on page F-2 of this report on Form 20-F.

Item 18. FINANCIAL STATEMENTS

Not applicable

Item 19. FINANCIAL STATEMENTS AND EXHIBITS

A. Financial Statements

- Consolidated Statements of Earnings for the years ended December 31, 1999, 1998 and 1997.
- Consolidated Statements of Retained Earnings for the years ended December 31, 1999, 1998 and 1997.
- Consolidated Balance Sheets as at December 31, 1999 and 1998.
- Consolidated Statements of Cash Flows for the years ended December 31, 1999, 1998 and 1997.
- Notes to Consolidated Financial Statements.
- Schedule X Supplementary Consolidated Earnings Statement Information for the years ended December 31, 1999, 1998 and 1997.

B. Exhibits (Commission file number 0-19539)

Exhibit Number	
1	Article of Amalgamation of the Registrant.
2	By-Laws of the Registrant.
3	Specimen Stock Certificate of the Registrant.
4	Revised and Restated Master License Agreement dated November 20, 1995 among the Registrant, Glaxo Group Limited, Glaxo Wellcome Inc. (formerly Glaxo Canada Inc.), Glaxo Wellcome Inc. (formerly Glaxo Inc.), Tanaud Holdings (Barbados) Limited, Tanaud International B.V. and Tanaud LLC – incorporated herein by the reference to the Registrant’s report on Form 6-K, filed August 19, 1997.
5*	Partnership Agreement dated January 1, 1996 by and between Glaxo Wellcome Inc. and the Registrant.
6*	Marketing Agreement dated January 1, 1996 by and between the Registrant and Glaxo Wellcome BioChem.
7	North American Vaccine, Inc. Shareholders Agreement dated January 17, 1990 among the Registrant, Philip Frost, M.D., IVAX Corporation, and Frost- Nevada, Limited Partnership – incorporated herein by reference to exhibit 9.1 to Amendment No. 2 to North American Vaccine, Inc.’s Registration Statement on Form S-4 (File No. 33-31512), declared effective January 24, 1990.
8	BioChem Pharma Directors, Officers, Employees and Consultants Stock Option Plan.
9*	Employment Agreement dated January 29, 1997 between Dr. Francesco Bellini and the Registrant.
10	Amendment to the Employment Agreement dated January 28, 2000 between Dr. Francesco Bellini and the Registrant.
11*	Development and License Agreement dated December 3, 1998 by and between SmithKline Beecham PLC and Tanaud Ireland Inc.
12*	Collaborative Research Agreement dated August 31, 1992 by and between the Registrant and AB Astra
13*	Amendment to the Collaborative Research Agreement dated October 2, 1996 by and between the Registrant and AB Astra.
14*	Amending Agreement to the Collaborative Research Agreement dated June 16, 1998 by and between the Registrant and AB Astra.
15*	Transfer Agreement dated August 31, 1992 by and between the Registrant and AB Astra.
16*	Assignment Agreement relating to the Transfer Agreement dated November 9, 1992 by and between the Registrant and Tanaud Holdings (Barbados) Limited.
17*	Assignment Agreement relating to the Transfer Agreement dated November 9, 1992 by and between Tanaud Holdings (Barbados) Limited and Tanaud International B.V.
18*	Amendment to the Transfer Agreement dated September 20, 1996 by and between the Registrant, AB Astra, Tanaud Holdings (Barbados) Limited and Tanaud International B.V.
19*	Collaboration Agreement dated May 5, 1997 by and between the Registrant and BioVector Therapeutics, S.A.
20*	Manufacturing and Supply Agreement dated May 5, 1997 by and between the Registrant and BioVector Therapeutics, S.A.

- 21* Amending Agreement to a Collaboration Agreement dated December 3, 1998 by and between the Registrant and BioVector Therapeutics, S.A.
- 22* Research Collaboration Agreement dated July 31, 1997 by and between the Registrant and Apoptosis Technology, Inc.
- 23 Technology License Agreement dated as of March 31, 1998 by and between the Registrant and CliniChem Development Inc. – incorporated herein by reference to the Registrant's report on Form F-3 (File No. 333-48521).
- 24 Amendment to Technology License Agreement by and between the Registrant and CliniChem Development Inc. dated as of May 19, 1998 – incorporated by reference to the Registrant's report on Form F-3 (File No. 333-48521).
- 25 Amendment No. 2 to Technology License Agreement by and between the Registrant and CliniChem Development Inc. dated as of April 27, 1999.
- 26 Amendment No. 3 to Technology License Agreement by and between the Registrant and CliniChem Development Inc. dated as of April 27, 1999.
- 27 Amendment No. 4 to Technology License Agreement by and between the Registrant and CliniChem Development Inc. effective as of January 1, 2000.
- 28 Research and Development Agreement dated as of March 31, 1998 by and between the Registrant and CliniChem Development Inc. – incorporated herein by reference to the Registrant's report on Form F-3 (File No. 333-48521).
- 29 Amendment to Research and Development Agreement by and between the Registrant and CliniChem Development Inc. effective as of May 4, 1998 – incorporated by reference to the Registrant's report on Form F-3 (File No. 333-48521).
- 30 Amendment No. 2 to Research and Development Agreement by and between the Registrant and CliniChem Development Inc. effective as of June 22, 1998 – incorporated by reference to the Registrant's report on Form F-3 (File No. 333-48521).
- 31 Amendment No. 3 to Research and Development Agreement by and between the Registrant and CliniChem Development Inc. effective as of April 27, 1999.
- 32 Amendment No. 4 to Research and Development Agreement by and between the Registrant and CliniChem Development Inc. effective as of April 27, 1999.
- 33 Amendment No. 5 to Research and Development Agreement by and between the Registrant and CliniChem Development Inc. effective as of January 1, 2000.
- 34 Product Option Agreement dated as of March 31, 1998 by and between the Registrant and CliniChem Development Inc. – incorporated herein by reference to the Registrant's report Form F-3 (File No. 333-48521).
- 35 Amendment to Product Option Agreement by and between the Registrant and CliniChem Development Inc. effective as of April 27, 1999.
- 36 Amendment No. 2 to Product Option Agreement by and between the Registrant and CliniChem Development Inc. effective as of April 27, 1999.
- 37 Amendment No. 3 to Product Option Agreement by and between the Registrant and CliniChem Development Inc. effective as of January 1, 2000.
- 38 Services Agreement dated as of March 31, 1998 by and between the Registrant and CliniChem Development Inc. – incorporated herein by reference to the Registrant's report on Form F-3 (File No. 333-48521).
- 39 Share Purchase Agreement dated June 11, 1999 by and between the Registrant and Glaxo Wellcome Inc.
- 40 Shareholder Agreement dated November 17, 1999 between the Registrant, Baxter International Inc., Frost-Nevada, Limited Partnership, IVAX

Corporation and Phillip Frost, M.D.

41 * Technology Partnership Canada, Development of Recombinant Protein
Vaccine Technologies Agreement, dated March 31, 2000 by and between
the Canadian Government and the Registrant.

*Confidential treatment requested as to certain portions.

Additional Information

The following documents can be obtained upon request from the Corporate Secretary of BioChem, at BioChem Pharma Inc., 275 Armand-Frappier Blvd, Laval, Québec, Canada H7V 4A7.

- (i) this report on Form 20-F, together with any document incorporated herein by reference;
- (ii) the Annual Report of BioChem and any interim financial statements filed with Securities Commissions subsequent to the audited financial statements for BioChem's most recently completed financial year;
- (iii) the Management Proxy Circular; and
- (iv) any other documents that are incorporated by reference into a preliminary short form prospectus or a short form prospectus pursuant to which securities of BioChem are in the course of a distribution.

Except when securities of BioChem are in the course of distribution pursuant to a short form prospectus or a preliminary short form prospectus, BioChem may require the payment of a reasonable charge from persons, other than security holders, of BioChem, requesting copies of these documents.

SIGNATURES

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, the registrant certifies that it meets all of the requirements for filing on Form 20-F and has duly caused this Registration Statement to be signed on its behalf by the undersigned, hereunto duly authorized.

BIOCHEM PHARMA INC.

(signed) Guy Lord
Senior Vice-President, Corporate Affairs
and Secretary

Dated: May 15, 2000

ANNEX

BIOCHEM PHARMA INC.

Consolidated Financial Statements

**For the Years Ended
December 31, 1999, 1998 and 1997**

BIOCHEM PHARMA INC.
CONSOLIDATED FINANCIAL STATEMENTS
For the Years Ended
December 31, 1999, 1998 and 1997

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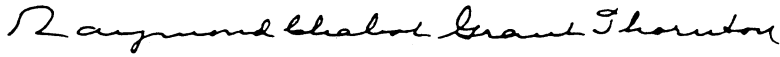
Auditors' report

To the Shareholders of BioChem Pharma Inc.

We have audited the consolidated balance sheets of BioChem Pharma Inc. as at December 31, 1999 and 1998 and the consolidated statements of earnings, retained earnings and cash flows for the years ended December 31, 1999, 1998 and 1997. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards in Canada. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these consolidated financial statements present fairly, in all material respects, the financial position of the Company as at December 31, 1999 and 1998 and the results of its operations and its cash flows for the years ended December 31, 1999, 1998 and 1997 in accordance with generally accepted accounting principles in Canada.



Raymond Chabot Grant Thornton
General partnership
Chartered Accountants

Montreal, Quebec, Canada
January 26, 2000

BIOCHEM PHARMA INC.

CONSOLIDATED STATEMENTS OF EARNINGS

for the years ended December 31, 1999, 1998 and 1997
(in thousands of Canadian dollars except per share information)

	1999	1998	1997
	\$	\$	\$
Operating revenue			
Sales	23,412	22,094	20,172
Royalties	172,588	154,122	124,130
Research and development contracts	79,923	33,718	4,004
Interest	7,528	9,869	10,458
Other	6,824	5,162	4,096
	290,275	224,965	162,860
Expenses			
Cost of sales	14,223	11,812	10,491
Selling and administrative	26,081	31,250	30,163
Research and development (note 4)	87,498	49,116	33,175
Financial (note 4)	(918)	(114)	(796)
	126,884	92,064	73,033
Earnings before depreciation, amortization and other	163,391	132,901	89,827
Depreciation and amortization (note 4)	(8,282)	(6,952)	(3,349)
Earnings before income taxes and other	155,109	125,949	86,478
Gain on sale of long-term investments	24,181	—	—
Income taxes (note 5)	(12,091)	(9,479)	(4,000)
Non-controlling interest	—	1,428	1,797
Share of loss of a company subject to significant influence (note 8)	—	—	(6,595)
Earnings from continuing operations	167,199	117,898	77,680
Earnings (loss) from discontinued operations (note 3)	(18,097)	(3,124)	2,158
Net income	149,102	114,774	79,838
Basic earnings per common share			
Continuing operations	1.59	1.09	0.72
Net income	1.42	1.06	0.74
Fully diluted earnings per common share			
Continuing operations	1.57	1.09	0.72
Net income	1.41	1.06	0.74

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

BIOCHEM PHARMA INC.

CONSOLIDATED STATEMENTS OF RETAINED EARNINGS

for the years ended December 31, 1999, 1998 and 1997

(in thousands of Canadian dollars)

	1999	1998	1997
	\$	\$	\$
Retained earnings, beginning of year	45,813	81,039	1,201
Net income	149,102	114,774	79,838
Premium on repurchase of common shares (note 13)	(209,497)	—	—
Reduction arising from the distribution of the CliniChem Class A shares (note 14)	—	(150,000)	—
Retained earnings (deficit), end of year	(14,582)	45,813	81,039

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

BIOCHEM PHARMA INC.

CONSOLIDATED BALANCE SHEETS

as at December 31, 1999 and 1998

(in thousands of Canadian dollars)

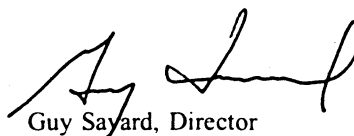
	1999 \$	1998 \$
Assets		
Current assets		
Cash and cash equivalents	68,791	53,801
Temporary investments	81,460	120,295
Accounts receivable (note 6)	83,331	64,871
Inventories (note 7)	3,236	2,312
Prepaid expenses	3,089	2,464
Current assets of discontinued operations	89,620	123,586
	329,527	367,329
Long-term investments (note 8)	110,324	103,746
Capital assets (note 9)	137,988	98,778
Other assets (note 10)	12,880	10,846
Non-current assets of discontinued operations	33,998	51,863
	624,717	632,562
Liabilities		
Current liabilities		
Bank indebtedness	—	2,276
Accounts payable and accrued liabilities (note 11)	45,314	25,122
Current portion of long-term debt (note 12)	600	942
Current liabilities of discontinued operations	42,558	67,906
	88,472	96,246
Long-term debt (note 12)	124,614	12,470
Non-current liabilities of discontinued operations	34,767	45,225
	247,853	153,941
Shareholders' equity		
Capital stock (note 13)	382,174	408,365
Contributed surplus	9,451	10,199
Retained earnings	(14,582)	45,813
Foreign currency translation adjustment (note 15)	(179)	14,244
	376,864	478,621
	624,717	632,562

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

On behalf of the Board,



Francesco Bellini, Director



Guy Sayard, Director

BIOCHEM PHARMA INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

for the years ended December 31, 1999, 1998 and 1997

(in thousands of Canadian dollars)

	1999 \$	1998 \$	1997 \$
Operating activities			
Earnings from continuing operations	167,199	117,898	77,680
Non-cash items (note 16)	(17,385)	6,279	7,574
Operating cash flow	149,814	124,177	85,254
Changes in non-cash working capital items (note 16)	(10,811)	(12,586)	(9,215)
	139,003	111,591	76,039
Investing activities			
Maturity of temporary investments	120,295	90,757	75,373
Purchase of temporary investments	(81,460)	(146,264)	(125,284)
Acquisition of long-term investments	(16,284)	(38,014)	(46,641)
Proceeds from sale of long-term investments	31,804	—	—
Acquisition of non-controlling interest	—	(16,214)	—
Capital expenditures	(41,071)	(22,048)	(39,532)
Disposal of capital assets	1,048	—	—
Other	(2,082)	(1,336)	(3,138)
	12,250	(133,119)	(139,222)
Financing activities			
Increase (decrease) in bank indebtedness	(2,276)	2,016	185
Increase in long-term debt	—	1,498	8,582
Repayment of long-term debt	(3,660)	(8,089)	(3,887)
Non-controlling interest	—	—	2,650
Issuance of common shares	4,050	3,934	2,687
Repurchase of common shares	(121,158)	—	—
Distribution of the CliniChem Class A shares	—	(150,000)	—
	(123,044)	(150,641)	10,217
Foreign currency translation adjustment	(2,900)	2,201	250
Cash flows related to continuing operations	25,309	(169,968)	(52,716)
Cash flows related to discontinued operations	(10,319)	2,371	(11,166)
Increase (decrease) in cash and cash equivalents	14,990	(167,597)	(63,882)
Cash and cash equivalents, beginning of year	53,801	221,398	285,280
Cash and cash equivalents, end of year	68,791	53,801	221,398
Pre-acquisition free cash flow	96,898	88,207	33,369

Pre-acquisition free cash flow includes cash flow from operating activities after capital expenditures, disposal of capital assets and other items in investing activities.

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

BIOCHEM PHARMA INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(tabular amounts are in thousands of Canadian dollars except per share information)

1. Nature of operations

The Company is an international biopharmaceutical company dedicated to the research, development and commercialization of innovative products for the prevention and treatment of human diseases with a focus in the anti-infective and anticancer areas.

2. Significant accounting policies

The consolidated financial statements have been prepared in accordance with generally accepted accounting principles in Canada. The financial statements differ in certain respects from generally accepted accounting principles in the United States, as described in note 22.

Principles of consolidation

The consolidated financial statements include the accounts of the Company and those of its subsidiaries since their date of acquisition or creation.

Use of estimates

The preparation of financial statements requires management to make estimates and assumptions that affect the amounts presented in the financial statements and the accompanying notes. Actual results could differ from these estimates.

Foreign currency translation

Monetary assets and liabilities denominated in foreign currencies are translated at the exchange rate in effect at year-end and non-monetary items are translated at historical exchange rates. Operating revenue and expenses are translated at average exchange rates prevailing during the year. Gains or losses arising from these translations are included in earnings, with the exception of unrealized foreign exchange gains or losses on long-term monetary items, which are amortized over the remaining period of the related items.

Assets and liabilities of self-sustaining foreign operations are translated at the exchange rate in effect at year-end. Operating revenue and expense items are translated at average exchange rates prevailing during the year. Any corresponding foreign exchange gains and losses are deferred and disclosed separately as part of shareholders' equity and are recognized in earnings when the interest in the foreign operations is reduced.

Cash equivalents and temporary investments

Cash equivalents which consist primarily of highly liquid bank term deposits and commercial paper are restricted to investments which have an original maturity of three months or less. Investments which have an original maturity of more than three months are disclosed as temporary investments.

Inventory valuation

The raw materials inventory is valued at the lower of cost and replacement cost. The finished goods and work-in-process inventories are valued at the lower of cost and net realizable value. Cost is determined using the first in, first out method.

Long-term investments

The investment in common shares of a company subject to significant influence is accounted for by the equity method and other investments are recorded at acquisition cost. When there has been a decrease in value of a long-term investment that is other than a temporary decline, the investment is written down to recognize the loss.

Capital assets

Capital assets are recorded at acquisition cost. Rights, licenses and patents include acquisition costs, patent registration costs and other expenses incurred to obtain the licenses necessary to market and manufacture products.

Depreciation and amortization are calculated as follows:

	Methods	Annual rates
Buildings	Declining balance	5% to 10%
Equipment	Declining balance	10% to 40%
Leasehold improvements	Straight-line	Over the lease terms
Rights, licenses and patents	Straight-line	5 to 10 years, commencing in the year in which the product is marketed

Goodwill

Goodwill represents the excess of the cost of acquisitions over the fair value of the net assets acquired and is evaluated for any impairment in value. The evaluation consists of a review of the forecasted future earnings and the undiscounted future cash flows of the operations acquired. Any permanent impairment in the carrying value is charged to earnings in the year incurred. The Company concluded that the carrying value of goodwill had not sustained a permanent impairment in value for the years ended December 31, 1999, 1998 and 1997.

Goodwill is amortized on a straight-line basis over a period of 20 years, ending in 2018.

Deferred income taxes

The Company follows the tax allocation basis of accounting for income taxes. Deferred income taxes result from timing differences between the amount charged to earnings and the tax deduction.

Research and development

Research and development contract revenues are recorded on the basis of direct costs incurred, in addition to indirect costs and a portion of overhead expenses. Research and development contract revenues also include milestone revenue relating to research and development agreements.

Research and development expenses are recognized as incurred, net of related tax credits, and include a share of administrative expenses.

Earnings per common share

Basic and fully diluted earnings per common share are calculated using the weighted average number of common shares outstanding during the year. Fully diluted earnings per share give effect to the potential exercise of outstanding stock purchase options.

3. Discontinued operations

On January 29, 1999, the Company adopted a formal plan to dispose of its diagnostic operations. For reporting purposes, the results and financial position of this business segment have been presented as discontinued operations. Accordingly, prior years figures have been restated to reflect this change.

In July 1999, the Company disposed of the hematology operations of its diagnostics subsidiary. In January 2000, the Company announced that it had reached an agreement in principle to dispose of the remaining operations to a management-led group of this subsidiary. The proceeds of disposition will be determined according to agreed upon terms and repayment is contingent upon future cash flows. The Company has guaranteed the reimbursement of a long-term debt of this subsidiary in the amount of 37.3 billion Italian lira (CAN\$27,952,000 as at December 31, 1999 and CAN\$34,512,000 as at December 31, 1998).

The results of discontinued operations are as follows:

	1999	1998	1997
	\$	\$	\$
Operating revenue	75,975	122,419	117,949
Results of operations to measurement date	(1,097)	(3,124)	2,158
Estimated net loss on disposal	(17,000)	—	—
	(18,097)	(3,124)	2,158

4. Information on the consolidated statements of earnings

Research and development

Research and development expenses are disclosed net of tax credits which amounted to \$2,434,000 in 1999, \$1,935,000 in 1998 and \$1,729,000 in 1997.

Financial expenses

	1999	1998	1997
	\$	\$	\$
Interest on long-term debt	2,819	98	162
Other interest	8	106	351
Foreign exchange gain	(3,960)	(298)	(736)
Amortization of deferred foreign exchange losses (gains)	215	(20)	(573)
	(918)	(114)	(796)

Depreciation and amortization

	1999	1998	1997
	\$	\$	\$
Capital assets	7,344	5,863	3,163
Goodwill	344	228	134
Deferred charges	594	861	52
	8,282	6,952	3,349

5. Income taxes

	1999	1998	1997
	\$	\$	\$
Income taxes at combined statutory tax rates of different jurisdictions	13,870	9,856	3,506
Non-deductible items	459	75	110
Realization of previously unrecorded tax benefit	(2,526)	(879)	125
Large corporations tax	288	427	259
Income taxes at effective tax rates	12,091	9,479	4,000

The provision for income taxes comprises the following:

	1999	1998	1997
	\$	\$	\$
Current	12,399	9,479	4,000
Deferred	(308)	—	—
	12,091	9,479	4,000

As at December 31, 1999, the Company has accumulated research and development expenses in the amount of approximately \$101,000,000 which can be used to reduce taxable income in future years and which have no expiration date. In addition, the Company has operating losses carried forward of approximately \$8,000,000 which expire on various dates from 2001 to 2006.

As at December 31, 1999, the Company has investment tax credits amounting to approximately \$12,400,000 (\$14,200,000 as at December 31, 1998) which may be used to reduce future taxes payable. These credits expire in the years 2004 to 2009.

The tax benefits in respect of these items have not been reflected in the consolidated financial statements as at December 31, 1999.

6. Accounts receivable

	1999	1998
	\$	\$
Trade	4,048	5,124
Royalties receivable from a shareholder	48,312	43,585
Scientific research and experimental development tax credits	1,500	1,749
Research and development contracts	19,216	6,357
Other	10,255	8,056
	83,331	64,871

7. Inventories

	1999	1998
	\$	\$
Raw materials	890	574
Work-in-process	2,198	1,427
Finished goods	148	311
	3,236	2,312

8. Long-term investments

	1999	1998
	\$	\$
Investments in private companies, at cost	80,882	75,687
Shares in public companies, at cost	11,258	9,065
Investments in a company subject to significant influence – North American Vaccine, Inc.(a)		
Common shares, at equity value	—	—
Preferred shares, at cost	5,194	5,194
Convertible notes, at cost	12,990	13,800
	110,324	103,746

(a) Investments in a company subject to significant influence - North American Vaccine, Inc.

Common shares, at equity value

North American Vaccine, Inc. (NAVA) is a public company listed on the American Stock Exchange. The Company holds 32.0% of NAVA's outstanding common shares as at December 31, 1999, or 10,522,640 shares (34.7% or 11,179,114 shares as at December 31, 1998). As at December 31, 1999, the price per common share at the close of the market was \$6.49 or U.S.\$4.50 (\$13.61 or U.S.\$8.88 as at December 31, 1998). As at December 31, 1999, the market value of the investment in common shares based on the closing market price at the balance sheet date amounted to \$68,343,000 (\$152,148,000 as at December 31, 1998).

In 1999, the Company exercised all 57,812 options held to acquire common shares of NAVA at a price of \$4.48 (U.S.\$2.92) per share for a total of \$258,838 (U.S.\$168,811). In addition, BioChem sold 714,286 common shares of NAVA for proceeds of \$7,371,000 (U.S.\$5,000,000).

During the year, the Company has guaranteed the reimbursement of NAVA's line of credit to a maximum amount of U.S.\$6,000,000.

The Company's share of losses in the common shares of NAVA in excess of its equity value of nil amounted to \$23,439,000 in 1999, \$29,141,000 in 1998 and \$11,647,000 in 1997 for a total of \$64,227,000. In 1997, the Company recorded its share in the loss of NAVA in the amount of \$9,345,000 as well as a gain on dilution of \$2,750,000 resulting from the issuance of common shares by NAVA. No income taxes were recorded on this gain since the tax value of the investment in NAVA is greater than the carrying amount as at December 31, 1997.

Preferred shares, at cost

The Company holds 50% of NAVA's preferred shares as at December 31, 1999 and 1998, or 1,000,000 shares. Each preferred share is convertible into two common shares. The market value of the investment in preferred shares, based on the closing market price of the common shares at the balance sheet date, is \$12,990,000 (\$27,220,000 as at December 31, 1998).

Convertible notes, at cost

The convertible notes of \$12,989,700 (U.S.\$9,000,000) bear interest at the rate of 4.5% payable semi-annually and mature in November 2003. The notes are secured by equipment and patents of NAVA and are convertible at all times into common shares of NAVA at the rate of 117.0864 shares per U.S.\$1,000 of capital. The carrying amount of the notes approximates the fair value.

Financial position and earnings

The financial position of NAVA as at December 31, 1999, 1998 and 1997, as well as the earnings for the years ended December 31, 1999, 1998 and 1997, presented in accordance with generally accepted accounting principles in the United States, in thousands of Canadian dollars, are as follows:

	1999	1998	1997
	\$	\$	\$
Financial position			
Total assets	49,039	98,936	120,889
Total liabilities	190,250	189,361	144,957
Shareholders' equity	(141,211)	(90,425)	(24,068)
Earnings			
Revenue	16,280	12,430	13,431
Net loss	(73,248)	(83,979)	(59,978)

Disposal of investments in NAVA

On November 18, 1999, the Company entered into an agreement with a publicly traded corporation to vote in favor of the acquisition by this corporation of all of the outstanding shares of NAVA. Pursuant to the agreement, the corporation has agreed to exchange each share of NAVA's common stock for an amount of U.S.\$7 per share composed of cash and common stock. This transaction is conditional upon certain events expected to occur in 2000 and will be accounted for when concluded.

9. Capital assets

	1999	1998
	\$	\$
Cost		
Land	6,401	5,414
Buildings	96,464	68,298
Equipment and leasehold improvements	34,012	22,550
Rights, licenses and patents	25,354	19,085
	162,231	115,347
Accumulated depreciation and amortization		
Buildings	8,519	6,303
Equipment and leasehold improvements	13,248	8,366
Rights, licenses and patents	2,476	1,900
	24,243	16,569
Net book value	137,988	98,778

The capital expenditures shown in the consolidated statement of cash flows are presented excluding the variation in construction-related accounts payable.

Building costs include an amount of \$24,401,000 in 1999 and \$20,998,000 in 1998 for items that were not utilized and therefore not depreciated.

10. Other assets

	1999	1998
	\$	\$
Goodwill, at net book value	6,705	7,049
Deferred charges, at net book value	4,648	3,542
Deferred foreign exchange loss	722	128
Other, at cost	805	127
	12,880	10,846

11. Accounts payable and accrued liabilities

	1999	1998
	\$	\$
Accounts payable and accrued liabilities	27,358	14,888
Construction-related accounts payable	6,664	207
Income taxes payable	11,292	10,027
	45,314	25,122

12. Long-term debt

	1999 \$	1998 \$
Promissory note to a shareholder totalling U.S.\$80,000,000, bearing interest at 5% per annum, repayable in 2001.	115,464	—
Bank loans, bearing interest at the lender's prime rate, secured by a hypothec on land and building, repayable in annual instalments of \$600,000 and a final payment totalling \$3,600,000 in 2002 and renegotiable for an additional 5-year period. A subsidiary has undertaken to respect certain financial ratios. (a)	4,800	8,460
Federal and provincial government loans, with a maximum available amount of \$5,500,000, non-interest bearing and repayable in maximum annual instalments of \$1,100,000 commencing in 2002.	4,950	4,950
Obligations under capital leases maturing in 1999.	—	2
	125,214	13,412
Less: current portion	600	942
	124,614	12,470

(a) The Company entered into an agreement with Investissement Québec (IQ) whereby IQ guarantees, until 2006, 80% of a maximum loan of \$4,800,000. IQ will reimburse the Company the aggregate interest of this loan until 2001 to a maximum of \$1,875,000.

Payments due in each of the next five years are as follows:

	\$
2000	600
2001	116,064
2002	4,590
2003	990
2004	990

13. Capital stock

Authorized shares

An unlimited number of voting common shares, without par value.

Issued shares

The changes to the Company's capital stock are as follows:

	1999	1998	1997
Number of shares			
Balance, beginning of year	108,735,790	108,255,640	108,029,740
Share repurchase	(8,000,000)	—	—
Exercise of share options	279,800	480,150	225,900
Balance, end of year	101,015,590	108,735,790	108,255,640
Weighted average number of common shares outstanding	105,312,719	108,442,700	108,152,816

A two-for-one stock split of common shares took effect on April 7, 1997. All information relating to common shares reflects this stock split.

	1999	1998	1997
	\$	\$	\$
Amounts			
Balance, beginning of year	408,365	404,431	401,744
Share repurchase	(30,241)	—	—
Exercise of share options	4,050	3,934	2,687
Balance, end of year	382,174	408,365	404,431

Share repurchase

On July 19, 1999, the Company completed its purchase for cancellation of eight million of the Company's common shares held by Glaxo Wellcome Inc. at a price of U.S.\$20 per share. Payment of these shares is to be made in two stages: \$121,158,000 (U.S.\$80 million) was paid on July 19, 1999 and the balance is presented as long-term debt and due on January 19, 2001. The above-mentioned transaction was recorded as follows: \$30,241,000 as a reduction to capital stock, \$748,000 as a reduction to contributed surplus and \$209,497,000 as a charge to retained earnings.

Stock purchase options

Stock option plan

The Company maintains a stock option plan intended for directors, officers, employees and consultants of the Company. The total number of options that may be granted under the terms of the plan cannot exceed 19,250,000. The exercise price of options granted under the plan is determined by the Board of Directors of the Company and cannot be lower than the market value on the date the options are granted. These options expire no later than ten years after the date they are granted.

The changes to the number of stock options granted by the Company are as follows:

	1999	1998	1997
Balance, beginning of year	6,520,600	6,182,600	4,434,800
Granted at a weighted average price of \$38.17 in 1999, \$31.84 in 1998 and \$35.59 in 1997	443,000	973,450	2,050,500
Exercised at a weighted average price of \$14.47 in 1999, \$8.19 in 1998 and \$11.89 in 1997	(279,800)	(480,150)	(225,900)
Cancelled	(135,050)	(155,300)	(76,800)
Balance, end of year	6,548,750	6,520,600	6,182,600
Weighted average price of options outstanding at end of year	\$25.91	\$24.36	\$21.96
Options exercisable at end of year	3,805,790	3,173,850	2,877,700

The information about stock options outstanding as at December 31, 1999 is as follows:

Exercise price	Options outstanding			Options exercisable	
	Number	Weighted average remaining contractual life	Weighted average exercise price \$	Number	Weighted average exercise price \$
\$6.19 to \$7.50	185,700	4.4 years	6.59	185,700	6.59
\$7.51 to \$10.00	272,450	3.9 years	8.60	232,450	8.54
\$10.01 to \$15.00	1,598,000	2.1 years	11.17	1,598,000	11.17
\$15.01 to \$22.50	226,000	3.3 years	17.59	201,000	17.44
\$22.51 to \$33.00	1,904,600	7.3 years	30.79	804,540	30.45
\$33.01 to \$40.40	2,362,000	7.5 years	36.27	784,100	35.67
	6,548,750		25.91	3,805,790	20.24

The weighted average price of options exercisable for 1998 and 1997 were respectively \$16.86 and \$12.69.

Investissement Québec

In consideration for the guarantee of a subsidiary's loan relating to a building and reimbursement of interest on this loan, the Company has granted Investissement Québec an option to purchase 123,476 common shares at an exercise price of \$5.15 per share. This option expires in July 2001.

Deferred share unit plan

In 1998, the Company introduced a long-term incentive plan for directors and certain executives. Under the plan, the participants may elect to be allocated, in lieu of a cash payment, a portion or all of the annual bonus or fees in the form of Deferred Share Units (DSUs). The number of DSUs to be credited is based on the amount of the annual bonus in the case of executives, or directors fees in the case of directors, divided by the market value of the Company's common shares at a predetermined date. The DSUs are redeemable (either in cash or common shares or a combination of cash and common shares) only upon the participant's retirement, death, resignation or termination. Compensation expense in respect of the DSUs is charged to income during the year incurred and amounted to \$761,000 in 1999 and \$951,000 in 1998.

Shareholder Rights Plan

During 1995, the shareholders of the Company approved a Shareholder Rights Plan (Rights Plan). Under the Rights Plan, one common share purchase right was issued on April 28, 1995 in respect of each outstanding common share and a share purchase right for each common share issued thereafter. These rights are exercisable in a situation of public offering where certain conditions are not respected. Each right entitles the holder to purchase, from the Company, one common share at a specific price, subject to certain anti-dilution adjustments. The Rights Plan expires on June 30, 2003, or unless terminated earlier by the Company's Board of Directors. The purpose of the Rights Plan is to require anyone, who seeks to acquire 20% or more of the Company's voting shares, to present a bid complying with specific provisions.

14. Transactions concluded with CliniChem Development Inc.

In 1998, CliniChem Development Inc. (CliniChem) was formed by BioChem to conduct research and development of certain of the Company's human therapeutic and vaccine product candidates.

On June 8, 1998, BioChem made a \$150,000,000 cash contribution to CliniChem's capital. The shares of CliniChem held by BioChem were exchanged for Class A and B common shares of CliniChem. As at June 26, 1998, each holder of record of BioChem common shares received one Class A common share of CliniChem for each 40 common shares of BioChem held on June 22, 1998.

The fair value of the Class A common shares of CliniChem distributed to BioChem's shareholders was approximately \$24,000,000. This value has been determined by management based on the trading price of the shares of CliniChem on the relevant stock markets immediately after the distribution and has been accounted for as a reduction of retained earnings. The excess of the carrying value of the Company's investment in CliniChem Class A shares over their fair value, which amounted to approximately \$126,000,000, has also been accounted for as a reduction of retained earnings.

Simultaneously, BioChem concluded a series of agreements with CliniChem. Under the terms of a technology license contract, BioChem granted to CliniChem an exclusive perpetual license to use BioChem technology to conduct the CliniChem programs and related activities, and to manufacture and commercialize the CliniChem products worldwide. CliniChem will pay a fee to BioChem in exchange for the technology license. The technology fee is payable monthly at a rate of \$352,000 per month over a period of 48 months. However, the technology fee will cease to be payable under certain circumstances.

Under the terms of a research and development agreement, BioChem conducts the CliniChem programs. CliniChem will use available funds, as defined in the contract, to repay BioChem for its research and development expenses. BioChem accounts for amounts received as research and development contract revenue.

CliniChem also granted BioChem an option to acquire all rights to each CliniChem product. This option is exercisable on a country-by-country basis for each CliniChem product.

Moreover, as the holder of the majority of Class B shares, BioChem is entitled to acquire, from a specific date, all of the outstanding CliniChem Class A common shares at a price to be determined according to a set formula.

15. Foreign currency translation adjustment

	1999 \$	1998 \$
Balance, beginning of year	14,244	2,399
Effect of foreign exchange rate variations upon translation of the net assets of self-sustaining foreign operations	(14,423)	11,845
Balance, end of year	(179)	14,244

16. Information on the consolidated statements of cash flows

In 1999, the Company adopted the Canadian Institute of Chartered Accountants recommendations related to the presentation of cash flow statements. The standard requires that only investments which have an original maturity of three months or less be disclosed as cash equivalents. In addition, all non-cash transactions are to be excluded from investing and financing activities and disclosed elsewhere in the consolidated financial statements in a manner that provides all relevant information about investing and financing activities. The standard requires retroactive application with prior comparative information being restated.

	1999 \$	1998 \$	1997 \$
Non-cash items			
Depreciation and amortization	8,282	6,952	3,349
Share of loss of a company subject to significant influence	—	—	6,595
Non-controlling interest	—	(1,428)	(1,797)
Gain on sale of long-term investments	(24,181)	—	—
Deferred income taxes	(308)	—	—
Other	(1,178)	755	(573)
	(17,385)	6,279	7,574

	1999	1998	1997
	\$	\$	\$
Changes in non-cash working capital items			
Accounts receivable	(22,673)	(13,269)	(16,300)
Inventories	(924)	(868)	(130)
Prepaid expenses	(637)	(1,114)	(592)
Accounts payable and accrued liabilities, excluding construction-related accounts payable	13,423	2,665	7,807
	(10,811)	(12,586)	(9,215)
Supplemental information			
Income taxes paid	9,865	4,947	886
Interest paid	468	661	683

17. Related party transactions

Transactions with a shareholder are as follows:

	1999	1998	1997
	\$	\$	\$
Royalty revenue	172,588	153,500	124,130
Interest expense on promissory note	2,610	—	—

The Company incurred professional fees with law firms, in which certain of the Company's directors are partners, totalling \$330,000 for the year ended December 31, 1999 (\$988,000 for the year ended December 31, 1998 and \$356,000 for the year ended December 31, 1997).

These transactions were concluded in the normal course of operations, at the exchange amount.

In 1998, the Company repurchased the common shares of a subsidiary held by a Company shareholder for an amount of \$16,025,000. Goodwill arising from the transaction amounted to \$6,631,000. In 1997, this shareholder subscribed to common shares of the subsidiary for an amount of \$2,650,000.

18. Commitments and contingencies

The Company has undertaken to subscribe to an interest in companies and a partnership for amounts totalling \$48,169,000. As at December 31, 1999, an amount of \$31,932,000 has been acquired.

In 1996, a legal proceeding was instituted in the United States against the Company and Glaxo Wellcome for alleged patent infringement on a product licensed to Glaxo Wellcome. The action seeks monetary damages relating to the sale of the product in the United States. In the opinion of management, the claim is without merit and the Company is vigorously opposing the allegation. In addition, the Company is involved in other claims and lawsuits in the normal course of business. It is not possible at this time to determine the ultimate outcome of any of these claims.

19. Uncertainty due to the Year 2000 issue

The Year 2000 issue arises because many computerized systems use two digits rather than four to identify a year. Date-sensitive systems may recognize the Year 2000 as 1900 or some other date, resulting in errors when information using Year 2000 dates is processed. In addition, similar problems may arise in some systems which use certain dates in 1999 to represent something other than a date. The effects of the Year 2000 issue may be experienced before, on, or after January 1, 2000, and, if not addressed, the impact on operations and financial reporting may range from minor errors to significant systems failure which could affect an entity's ability to conduct normal business operations. It is not possible to be certain that all aspects of the Year 2000 issue affecting the Company, including those related to the efforts of customers, suppliers, or other third parties, will be fully resolved.

20. Segmented information

The Company has two reportable segments: therapeutics and vaccines. The therapeutic segment focuses mainly on conducting research and development of new medications for the treatment of cancer and infectious diseases. The vaccine segment specializes in the research, development, manufacturing and marketing of innovative vaccines for the prevention of certain infectious diseases. Information about other operating segments that are not reportable is combined and disclosed in the category “Other”. These segments mainly relate to head office operations. Where operating revenue is concerned, they include inter-segment revenues, interest income and certain other contract revenue. The accounting policies used for the various segments are the same as those described in the summary of significant accounting policies in note 2.

Inter-segment transactions are concluded at the exchange amount and are not eliminated in presenting the revenues and expenses of each industry segment. These transactions include head office expenses, such as management fees, interest and certain operating costs allocated to the various segments.

Industry segments

The Company operates in the following industry segments:

	1999 \$	1998 \$	1997 \$
Operating revenue (a)			
Therapeutics	235,185	184,227	140,308
Vaccines	35,706	26,795	9,498
Other	21,171	22,283	19,891
	292,062	233,305	169,697
Inter-segment transactions relating to other segments	(1,787)	(8,340)	(6,837)
	290,275	224,965	162,860
Financial expenses			
Therapeutics	7	5	19
Vaccines	97	900	405
Other	2,723	114	505
	2,827	1,019	929
Inter-segment transactions	–	(815)	(416)
Foreign exchange gain, including amortization of deferred foreign exchange gains and losses	(3,745)	(318)	(1,309)
	(918)	(114)	(796)
Depreciation and amortization			
Therapeutics	3,226	3,491	2,491
Vaccines	4,160	2,635	597
Other	896	826	261
	8,282	6,952	3,349
Income taxes			
Therapeutics	11,443	8,727	3,373
Vaccines	181	165	144
Other	467	587	483
	12,091	9,479	4,000

	1999 \$	1998 \$	1997 \$
Net income (loss)			
Therapeutics	162,362	119,322	84,372
Vaccines	(4,425)	(1,482)	(5,296)
Share of loss of a company subject to significant influence	—	—	(6,595)
Other	9,262	58	5,199
Earnings from continuing operations	167,199	117,898	77,680
Earnings (loss) from discontinued operations	(18,097)	(3,124)	2,158
	149,102	114,774	79,838
Total assets			
Therapeutics	248,664	210,324	
Vaccines	132,975	99,498	
Other	119,460	147,291	
	501,099	457,113	
Assets from discontinued operations	123,618	175,449	
	624,717	632,562	
Capital expenditures			
Therapeutics	12,518	9,049	10,937
Vaccines	33,273	8,826	26,916
Other	1,737	1,226	925
	47,528	19,101	38,778
Variation in construction-related accounts payable	(6,457)	2,947	754
	41,071	22,048	39,532
Geographic segments			
The Company operates in the following geographic segments:			
	1999 \$	1998 \$	1997 \$
Operating revenue			
Canada	88,039	77,815	40,601
United States	119,164	93,131	57,661
Europe	55,479	56,512	64,810
Other	97,924	73,133	42,363
	360,606	300,591	205,435
Inter-segment transactions	(70,331)	(75,626)	(42,575)
	290,275	224,965	162,860
Capital assets			
Canada	100,253	90,952	
United States	29,485	1,464	
Europe	1,064	3,003	
Other	7,186	3,359	
	137,988	98,778	

	1999 \$	1998 \$
Goodwill		
Canada	6,705	7,049

(a) Operating revenue includes interest income totalling \$593,000 in 1999 (\$691,000 in 1998 and \$135,000 in 1997) for the therapeutic segment, nil in 1999 (nil in 1998 and \$28,000 in 1997) for the vaccine segment and \$6,934,000 in 1999 (\$9,178,000 in 1998 and \$10,295,000 in 1997) for the other segments.

Information on the Company's major client

Operating revenue includes royalties of \$172,588,000 in 1999 (\$153,500,000 in 1998 and \$124,130,000 in 1997) from a shareholder.

21. Financial instruments

Temporary investments

Temporary investments totalling \$81,460,000 as at December 31, 1999 (\$120,295,000 as at December 31, 1998) include bank term deposits and commercial paper which have original maturities of three months or more. The Company has classified temporary investments as held to maturity and has recorded these investments at cost.

Foreign exchange risk

Foreign exchange risk is the risk that variations in exchange rates between the Canadian dollar and foreign currencies will affect the Company's operating and financial results. The Company earns a significant portion of its operating revenues in U.S. dollars and British pounds and does not use derivative instruments to reduce its exposure to this foreign exchange risk.

The Company has entered into a forward exchange contract which acts as a hedge to effectively fix the amount of Canadian dollars required to repay the U.S.\$80,000,000 promissory note from a shareholder, which is repayable on January 19, 2001, at an exchange rate of 1.4630. Any unrealized gains or losses on the forward exchange contract are offset by unrealized gains and losses on the U.S. dollar-denominated promissory note. As at December 31, 1999, the amount of unrealized loss on this forward exchange contract was \$1,576,000.

Fair value of financial instruments

The Company uses the following methods and assumptions to estimate the fair value of each class of financial instruments:

Cash and cash equivalents, temporary investments, bank indebtedness, accounts receivable, accounts payable and accrued liabilities

The carrying amounts approximate fair value due to the short-term maturity of these instruments.

Long-term investments in private companies

The fair value of the investments in private companies is not readily determinable because these investments are not publicly traded.

Shares of public companies

The fair value of the shares of public companies is established based on the closing market price as at the balance sheet date. As at December 31, 1999, the fair value of these shares amounted to \$9,301,000 (\$4,406,000 as at December 31, 1998).

Long-term debt

The fair value is estimated using discounted cash flow analyses, based on the Company's current incremental borrowing rates for similar types of arrangements. There is no material difference between the carrying value and the fair value of the long-term debt.

22. Summary of differences between generally accepted accounting principles in Canada and in the United States

The consolidated financial statements have been prepared in accordance with generally accepted accounting principles (GAAP) in Canada which differ in certain respects from U.S. GAAP. Had the Company followed U.S. GAAP, certain items on the consolidated balance sheets would have increased (decreased) as follows:

Consolidated balance sheets

	1999 \$	1998 \$
Long-term investments (a) (b)	(7,151)	(4,659)
Other assets		
Deferred charges (c)	(4,648)	—
Deferred foreign exchange losses (d)	(722)	(128)
Non-current assets of discontinued operations (f)	—	(347)
Shareholders' equity		
Retained earnings	(9,863)	226
Foreign currency translation adjustment (g)	(701)	(701)
Foreign currency translation adjustment transferred to comprehensive income (k)	880	(13,543)
Other cumulative components of comprehensive income (k)		
Unrealized investment losses (a)	(1,957)	(4,659)
Foreign currency translation adjustment	(880)	13,543

In addition, the net income (loss) and the earnings (loss) per common share in the United States are as follows:

Consolidated statements of earnings

	1999 \$	1998 \$	1997 \$
Earnings from continuing operations according to Canadian GAAP	167,199	117,898	77,680
Share of loss in a company subject to significant influence (b)	(5,194)	—	—
Deferred charges (c)	(4,648)	—	—
Deferred foreign exchange losses (d)	(594)	(128)	—
Loss on disposal of a long-term investment (h)	—	(126,069)	—
Earnings (loss) from continuing operations per U.S. GAAP	156,763	(8,299)	77,680
Earnings (loss) from discontinued operations according to Canadian GAAP	(18,097)	(3,124)	2,158
Adjustment to earnings (loss) from discontinued operations (f)	347	1,360	(2,665)
Loss from discontinued operations per U.S. GAAP	(17,750)	(1,764)	(507)
Net income (loss) per U.S. GAAP	139,013	(10,063)	77,173
Earnings (loss) per common share per U.S. GAAP (i)			
Basic			
Continuing operations	1.49	(0.08)	0.72
Discontinued operations	(0.17)	(0.01)	(0.01)
Net income	1.32	(0.09)	0.71
Diluted			
Continuing operations	1.49	(0.08)	0.71
Discontinued operations	(0.17)	(0.01)	(0.01)
Net income	1.32	(0.09)	0.70

(a) Long-term investments

Under Canadian GAAP, investments in shares of public companies and debt securities, excluding the investment in the common shares of a company subject to significant influence, should be recorded at cost, less any decrease in value other than a temporary decline. Under U.S. GAAP, the Company would be required to record some of these investments at fair value and would have presented the unrealized gains or losses as a component of comprehensive income in the shareholders' equity. The cost of these investments amounts to \$24,248,000 as at December 31, 1999 (\$22,865,000 as at December 31, 1998) and the fair value amounts to \$22,291,000 as at December 31, 1999 (\$18,206,000 as at December 31, 1998).

(b) Share of loss in a company subject to significant influence

Under U.S. GAAP, the total investment in NAVA would be reduced by \$5,194,000 in accordance with the new requirements of the Emerging Issues Task Force on accounting by an equity method investor for investee losses when the investor has loans to and investments in other securities of the investee.

(c) Deferred charges

In 1998, the AICPA issued Statement of Position 98-5, "Reporting on the Costs of Start-Up Activities" ("SOP 98-5"), that should be applied in 1999. SOP 98-5 states that the costs of start-up activities should be expensed as incurred. Pursuant to SOP 98-5, the Company has written off the unamortized deferred charges which consist primarily of start-up activity costs. This was treated as a change in accounting principle.

(d) Deferred foreign exchange losses

Under Canadian GAAP, unrealized foreign exchange gains and losses arising on the translation of long-term monetary items are deferred and amortized over the life of the item. Under U.S. GAAP, these gains or losses would be included in earnings as they arise. The deferred foreign exchange losses on the balance sheet amounting to \$722,000 and \$128,000 as at December 31, 1999 and 1998 respectively would have been eliminated. Accordingly, a foreign exchange loss amounting to \$594,000 and \$128,000 would have been recognized in earnings for the year ended December 31, 1999 and 1998 respectively, and no foreign exchange gain or loss would have been recognized in earnings for the year ended December 31, 1997.

(e) Income taxes

Under U.S. GAAP, deferred tax assets or liabilities would be recorded for temporary differences that will result in deductible amounts or taxable amounts in future years as well as for loss carry forwards and deferred investment tax credits. A valuation allowance would be recorded for the portion of the asset considered unrealizable. In addition, the deferred tax asset or liability must be calculated at the current rate disclosed by government authorities. The tax consequences calculated on the differences between the carrying amount and the value for tax purposes of the assets and liabilities are as follows:

	1999	1998
	\$	\$
Deferred income taxes – asset		
Research and development expenses and operating losses	38,023	27,181
Investment tax credits	12,400	14,200
Temporary differences on investments	55,346	49,640
	105,769	91,021
Valuation allowance	(105,461)	(91,021)
Deferred income taxes – asset	308	–

The deferred income tax asset in the amount of \$308,000 as of December 31, 1999 has been recorded in the consolidated financial statements under Canadian GAAP.

Under U.S. GAAP, the amounts applicable to domestic and foreign income taxes would be disclosed separately and comprise the following:

	1999	1998	1997
	\$	\$	\$
Current: Canada	606	748	430
Foreign	11,793	8,731	3,570
Deferred: Canada	—	—	—
Foreign	(308)	—	—
	12,091	9,479	4,000

(f) Discontinued operations

For discontinued operations, the same principles as described in (d) for deferred foreign exchange losses would apply under U.S. GAAP. The impact on earnings from discontinued operations, net of income taxes, would be an increase of \$347,000 in 1999 and \$1,360,000 in 1998, and a decrease of \$2,665,000 in 1997.

(g) Realization of foreign currency translation adjustment

Under Canadian GAAP, a portion of the foreign currency translation adjustment is recognized in earnings on repatriation of capital from foreign operations. Under U.S. GAAP, adjustments to the foreign currency translation adjustment are only made if there is a reduction in ownership to a third party.

(h) Loss on disposal of a long-term investment

Under U.S. GAAP, the distribution of CliniChem's Class A shares amounting to \$150,000,000 would be reduced by \$126,069,000 and an equivalent loss on disposal of a long-term investment would be recorded.

(i) Earnings per share

Under Canadian GAAP, fully diluted earnings per share assumes that all the outstanding options at the end of the year have been exercised at the beginning of the year or at the date granted, if granted during the year, and proceeds from the exercise of options have been used for investments. Under U.S. GAAP, diluted earnings per share is calculated based on the assumption that the options have been exercised at the beginning of the year or at the date granted, if granted during the year, and proceeds from the exercise of options were used at the beginning of the year or at the date granted to acquire common shares of the Company at the average market price.

(j) Earnings before depreciation, amortization and other

U.S. GAAP does not permit the disclosure of a subtotal for earnings before depreciation, amortization and other. Canadian GAAP permits the disclosure of this subtotal.

(k) Comprehensive income

Under U.S. GAAP, unrealized gains or losses on investments and the change in the foreign currency translation adjustment are added to net earnings for the year to determine comprehensive income. In addition, these two items are presented as other components of comprehensive income under shareholders' equity. The changes in comprehensive income are as follows:

	1999	1998	1997
	\$	\$	\$
Net earnings (loss) per U.S. GAAP	139,013	(10,063)	77,173
Unrealized gains (losses) on long-term investments	2,702	(3,234)	(1,744)
Foreign currency translation adjustment	(14,423)	11,845	(289)
Consolidated comprehensive income	127,292	(1,452)	75,140

Consolidated statements of cash flows

- Under U.S. GAAP, the distribution of the CliniChem Class A shares amounting to \$150,000,000 shown as a financing activity in 1998 would be reduced by \$126,069,000 and cash flow from operations would be reduced by the same amount.
- Canadian GAAP allows for the presentation of operating cash flow before changes in non-cash working capital items in the consolidated statements of cash flows. Pre-acquisition free cash flow can also be disclosed. These totals cannot be presented under U.S. GAAP.

Accounting for compensation programs

The Company measures compensation costs related to awards of stock options using the intrinsic value-based method of accounting. Under U.S. GAAP, the Company is required to make pro forma disclosure of net income (loss), as if the fair value-based method of accounting had been applied. The fair value of options granted was estimated using the Black-Scholes option-pricing model with an expected life of 7.5 years, a risk-free interest rate of 5.15% in 1999 (5.4% in 1998 and 6.42% in 1997) and an expected volatility of 50% in 1999 (45% in 1998 and 40% in 1997). The expected dividends for 1999, 1998 and 1997 are nil.

The Company's net income (loss), earnings (loss) per share and diluted earnings (loss) per share would have increased (decreased) for the years ended December 31, 1999, 1998 and 1997, on a pro forma basis, as follows:

	1999	1998	1997
	\$	\$	\$
Net income (loss) pro forma	9,415	(14,715)	10,991
Earnings (loss) per share pro forma	0.09	(0.14)	0.10
Diluted earnings (loss) per share pro forma	0.09	(0.13)	0.10

The weighted average fair value of options granted in 1999 was \$22.91 (\$18.18 in 1998 and \$21.03 in 1997).

Accounting pronouncements not yet implemented

In 1997, the Canadian Institute of Chartered Accountants issued a new accounting standard concerning accounting for income taxes. The Company is required to adopt this standard for Canadian GAAP reporting purposes for the fiscal year beginning with 2000.

The Financial Accounting Standards Board has issued Statement of Financial Standard Board No. 133 dealing with hedging instruments. This standard should be adopted for fiscal years commencing after June 15, 2000.

The Company has not yet determined the potential impact of these statements.

BIOCHEM PHARMA INC.

SCHEDULE X – SUPPLEMENTARY CONSOLIDATED EARNINGS STATEMENT INFORMATION

	Years ended December 31,		
	<u>1999</u>	<u>1998</u>	<u>1997</u>
Repairs and maintenance	<u><u>\$2,329,956</u></u>	<u><u>\$1,432,031</u></u>	<u><u>\$813,512</u></u>
Taxes			
Tax on capital - Quebec	<u>1,105,898</u>	<u>1,239,031</u>	<u>684,744</u>
Property and business	<u>1,597,681</u>	<u>1,144,262</u>	<u>1,062,988</u>
	<u><u>2,703,579</u></u>	<u><u>2,383,293</u></u>	<u><u>1,747,732</u></u>
Professional fees	<u><u>11,461,491</u></u>	<u><u>14,780,392</u></u>	<u><u>8,457,881</u></u>