The Medical Reform Group of Ontario

Brief to the Parliamentary Committee on Bill C-22

January 1987

EXECUTIVE SUMMARY

The Medical Reform Group of Ontario believes that any decisions taken on the question of compulsory licensing must be examined as part of Canada's overall social policy regarding regarding prescription drugs. The 1969 amendment to the Patent Act allowing compulsory licensing to import was made because at that time it was deemed more important for Canadians to be able to afford prescription drugs than it was to protect company's patent rights.

As a result of compulsory licensing the multinationals have lost only 3.1 percent of the Canadian prescription drug market and their profits have not declined. On-the-other hand, as the Eastman Report showed Canadian consumers have enjoyed substantial benefits as a result of compulsory licensing. The question the Medical Reform Group poses is whether or not Bill C-22 will have even greater benefits.

We do not support the notion that Canada's policy on patent protection for pharmacueticals has to be changed simply to bring it into line with the policy in other countries. This kind of simplistic thinking ignores all the other measures that other developed countries have instituted to control drug costs and prices. We also believe that under the present circumstances the multinational companies operating in Canada are recovering the Canadian portion of their world-wide research and development expenditures.

We do not feel that the new legislation will adequately protect the Canadian owned generic companies. The costs are too great for them to be able to take out compulsory licences to manufacture just for the Canadian market and also because of economies of scale generic companies here

cannot survive just by marketing drugs that have gone off patent as companies in the United States do.

We note the absence in Bill C-22 of any provisions to hold the multinational companies to their promises of investment and job creation. Instead we are asked to rely on the Cabinet and Parliamentary reviews to enforce compliance with these promises.

The Medical Reform Group is concerned that there could be serious problems with the operation of the Drug Prices Review Board. The Consumer Price Index does not adequately reflect changes in prescription drug prices. The Board may have trouble determining Canadian manufacturing and research costs due to factors such as transfer pricing. If the Board hearings are lengthy we are worried that this could act as an incentive for companies to charge excessive prices for their products. An excessive price before the review coupled to a long review process may allow the company to earn more than a reasonable price over a ten year exemption from compulsory licensing. Finally terminating the exemption from compulsory licensing may not be much of a penalty since it could take up to 2.5 years for a generic competitor to appear.

We have serious doubts about the ability of the provisions of Bill C-22 to create an innovative world class pharmaceutical industry here in Canada. Industries of this type developed in Europe and the United States for particular historic and economic reasons and expecting a simple change in the Patent Act to duplicate these conditions demonstrates naive thinking on the part of the government. We refer to a study done for the Organisation for Economic Co-operation and Development which concludes that those countries where the pharmaceutical industry is dominated by multinational subsidiaries are highly unlikely to develop strong domestic industries.

The Eastman Report showed that investment in research and development in Canada did not decline after 1969, but in fact rose slightly when considered as a percent of the value of factory shipments. We are highly sceptical that extending patent protection to ten years for new drugs will result in large scale investment in research and development and in this view we are supported not only by conclusions in the Eastman Report but also by information in the OECD study we mentioned earlier. We also believe that the bulk of any new research will be on drugs of little or no therapeutic value. Finally, we do not feel that the multinationals will create anywhere near the 3,000 new "high tech" jobs that they have promised and most of the jobs that will result will underemploy the talents of Canadian scientists.

When we look at the costs that Bill C-22 will generate we find them to be substantial. According to our analysis competition in the pharmaceutical industry is a powerful force in controlling prices and under the new legislation there will be no competition for up to ten years. In a sample of three drugs that we consider we find that generic competition on these drugs had resulted in savings of $73,438,000 in 1982 alone. Had the new legislation been operative there would have been no generic competition on these products and no savings. Finally, we cite studies that show that if the cost of drugs is too high people will not get their prescriptions filled and as a result their health could be adversely affected.

Our conclusion is that the only ones to benefit from Bill C-22 will be the multinational pharmaceutical companies while the costs to Canadians, both economically and in terms of their health, will be substantial. Accordingly, we call on the federal government to abandon its plans to change the Patent Act.

INTRODUCTION

The Medical Reform Group believes that the question of patent protection for pharmaceuticals cannot be viewed in isolation from other issues surrounding prescription drugs. patent protection is not an absolute right. Granting patent protection for inventions, pharmaceutical or otherwise, is a decision taken as part of a country's social policy. Other aspects of social policy may take precedence over patent protection as we saw in 1969. At that time three major federal reports from the Restrictive Trade Practices Commission, the Hall Royal Commission on Health Services and the Harley Committee had all found that Canadian drug prices were among the highest in the world. All of these reports identified patent protection as one of the major causes of those high prices and recommended substantial changes to the Patent Act as it pertained to prescription drugs. The Restrictive Trade Practices Commission had, in fact, advocated the complete abolition of patent protection for pharmaceuticals. These recommendations on patent policy were made on the assumption that it was more important for Canadians to be able to afford drugs than for companies to have full patent protection on their products. The government of the day agreed with that conclusion resulting in Section 41(4) of the Patent Act allowing compulsory licensing to import.

In proposing to substantially limit compulsory licensing, the current government has to be able to show that the social benefits from those changes will outweigh the costs. Before we examine the costs and benefits of the proposed legislation, Bill C-22, we would like to review the effects of compulsory licensing over the past 17 years.

THE EFFECTS OF COMPULSORY LICENSING.

Compulsory licensing has not had any substantial negative effects on the Canadian subsidiaries of the multinational drug companies. Based on figures in the Eastman Report, in 1983, patent holding companies, that is the multinationals, had lost only 3.1 percent of the Canadian market to generic competition.[1] The accompanying table (Table 1) shows that since 1970 pharmaceutical manufacturing has been extremely profitable in Canada. In an international context, Eastman found that, with the exception of the United States, profit levels in Canada were generally higher than in most other well-developed countries in the world.[2] Comparing overall growth and development in the pharmaceutical industry in Canada relative to that in the United States yields, according to Eastman, "the straightforward conclusion that growth has been more buoyant in Canada than it has been in the United States since 1967."[3]

Although compulsory licensing has not adversely affected the pharmaceutical industry it has had a profoundly positive effect on Canadian consumers of prescription drugs. Eastman calculated 1983 savings due to compulsory licensing as at least $21.1 million.[4]

Based on this brief analysis, the Medical Reform Group concludes that the 1969 decision to introduce compulsory licensing to import has had an overall positive social benefit. The question thus becomes: will the suggested benefits from the new law be even greater than those presently received?

THE PROPOSED LEGISLATION

I The Benefits

According to an information paper issued by the Department of Consumer and Corporate Affairs,[5] the proposed amendments to the Patent Act incorporated in Bill C-22 have five principal objectives. In sumary these are:

(1) To bring Canadian patent policy in line with that in other developed countries.

(2) To maintain opportunities for growth for generic companies in Canada.

(3) To guarantee, through governmental and Parliamentary reviews, that the pharmaceutical industry's commitments for research and development are met.

(4) To ensure fair-priced drugs for Canadians through the creation of an independent Drug Prices Review Board.

(5) To encourage new investment in research and development and thereby "transform Canada's pharmaceutical sector into a world-class, innovative industry."

These then can fairly be termed the putative benefits of the legislation. We will now examine these five points in detail.

(1) As we pointed out earlier patent protection has to be viewed as part of a country's overall policy with respect to drugs. Comparing just the length of patent protection in Canada with that in other countries is extremely short-sighted. However, that is all the government appears to have done. We have not seen any evidence that the Conservative government has attempted a comprehensive analysis of how patent legislation in other countries fits in with the rest of their policies regarding pharmaceuticals. Changing Canada's patent legislation to conform to that of other countries,

without also examining how the rest of our prescription drug policies compare to those in other countries, is merely change for the sake of change. Virtually all countries except the United States regulate the price of drugs using a combination of policy instruments, one of which is patent legislation.

Presumably, one of the major reasons why the Conservatives wish to extend patent protection is because they, like the multinational drug companies, believe that companies should enjoy the fruits of their labours. It is widely claimed that it costs $50 to $100 million to develop and bring to market a new drug. However, it should be noted that these are world-wide costs. Canada represents about 1.5 percent of the world pharmaceutical market and as such our share of those expenses range from $750,000 to $1,500,000. We can find no evidence to suggest that multinational subsidiaries in Canada are not presently recovering these costs.

Finally, we find it ironic that after so many years of the multinationals accusing the generic companies of getting a "free ride" due to compulsory licensing that some of these same multinationals will be getting a "free ride" under Bill C-22 because of the efforts of other multinationals. Extended patent protection is being offered to all companies. As long as the overall goals of increased investment and job creation are met all the companies will benefit regardless of their individual contributions to these goals.

(2) The growth of generic companies is supposed to be maintained under the new legislation by allowing them to apply for a compulsory licence after seven years if they agree to manufacture the fine chemical ingredients in Canada. Generic companies are unlikely to start manufacturing fine chemicals. The Canadian experience with compulsory licences to manufacture from 1923 to 1969 shows that only a handful were issued.

Part of the explanation for the dearth of compulsory licence applications was related to the costs involved in manufacturing fine chemicals for the Canadian market only. As Eastman pointed out, production of the active ingredients of drugs is characterized by moderate economies of scale. For most drugs, the entire world supply of its active ingredient can be produced in a single plant.[6]

Consumer and Corporate Affairs adds that the generic industry in the United States is experiencing vigorous growth without the benefit of compulsory licensing.[7] American generic firms are prospering by selling drugs on which the patents have already expired. Economics of scale in the Canadian case make this a scarcely viable for our generic firms.

(3) There are no direct provisions in the legislation for holding the multinational companies to their promises about either research and development investment or job creation. The Cabinet review after four years and the Parliamentary review in the tenth year of the legislation are supposed to ensure that the companies have complied with their promises. There are, of course, no guarantees that the new patent policies will be revised whatever the outcome of these reviews.

(4) The Medical Reform Group has no objection to the creation of a Drug Prices Review Board to monitor drug prices, but we foresee problems in its operations. The Board is supposed to use the Consumer Price Index to help it follow price trends. The Royal Commission on Health Services concluded that: "any examination of drug prices requires more intensive inquiry than reliance on the general purpose price index on drugs."[8]

Another factor that the Board is allowed to take into consideration is the cost of making medications. These costs may prove to be difficult to

determine because of the possibility of the distortion of costs by transfer pricing.[9]

The Board is also instructed to examine the Canadian portion of world costs related to research on drugs. But research costs, the Canadian portion or otherwise, are very difficult, if not impossible, to ascertain. According to a study prepared for the Pharmaceutical Manufacturers Association of Canada:

> The unusually high proportion of unallocable common costs in the total structure of pharmaceutical costs makes it impossible for prices charged for individual drugs to be directly related to costs of producing those specific drugs. Common costs, such as outlays for research and development or similar overhead activities, are applicable to all products in their totality but not traceable to any product individually and can not be allocated to individual products except in the most arbitrary manner.[10]

The Medical Reform Group is worried about the length of time that it may take the Board to consider the price being charged for a given medication. Although the Board could terminate the exemption from compulsory licensing or order a roll-back in the drug's price, knowing that there would be a lengthy review could give companies an incentive to charge excessive prices. An excessive price before the review coupled to a long review process may allow the company to earn more than a reasonable price over a ten year exemption from compulsory licensing.

We are also concerned that merely terminating the exemption from compulsory licensing may not be a sufficient penalty for charging excessive

prices. There is no guarantee that a generic company will apply for a compulsory licence on the product. Furthermore, even if that occurs the information paper from Consumer and Corporate Affairs states that it takes, on average, 2.4 years for the Health Protection Branch to issue a Notice of Compliance for a generic drug.[11] Presumably, during that time the patent holding company would go on charging its excessive price.

Finally, we note that the wording of the legislation does not give the Board any power to control the price at which a new drug is initially marketed.

(5) The Consumer and Corporate Affairs information paper speaks of creating "a world-class, innovative industry" here in Canada.[12] According to Garry McDole, president of Astra Pharmaceuticals Canada Ltd. and vice-president of PMAC, even with that transformation the multinationals would still not start manufacturing fine chemicals in Canada, nor would they engage in exporting.[13] Mr. McDole's statement correlates with a finding by the Department of Industry, Trade and Commerce that Canadian subsidiaries are usually "not encourage or permitted by the head office to assume responsibility for exports of their products."[14]

Large, innovative, research intensive pharmaceutical industries have developed in certain countries for very specific historical reasons. A study by the Organisation for Economic Co-operation and Development goes into considerable detail in analyzing these reasons.[15] The large European companies grew out of firms that began as manufacturers of dyestuffs and organic chemicals and were well established by the mid 1930s. Although the U.S. based companies were relatively small until the beginning of the second World War, the advent of the Hitler regime in Germany caused an exodus of German scientists to other countries particularly the U.S. During

the war the demand for anti-infective agents was immense and the United States was the only country in a position to manufacture such materials on a large scale. By the end of the war the American industry was highly prosperous, uniquely experienced in antibiotic production and fully aware of the potential of research. Since the 1950s those countries with a strong indigenous pharmaceutical industry--the U.S., the U.K., Germany, Switzerland and France--have consolidated their position as the world's major pharmaceutical nations. With the exception of Japan no other country has broken into this elite group. Expecting a simple change in the length of patent protection to substitute for all of these factors shows extremely naive thinking on the part of the government.

The same OECD study also concluded that those countries where the pharmaceutical industry was dominated by multinational subsidiaries were highly unlikely to develop a strong domestic industry. Commenting directly on the Canadian situation the study said:

> An additional factor which must be considered in assessing the relatively low proportion of funds directed to pharmaceutical R & D in Canada is that technology and the results of innovation from parent corporations have been so readily available and so economically attractive in the short term, that the growth of national innovative technological capacity has been severely inhibited.[16]

The Conservatives believe that extended patent protection is necessary to promote increased investment in the Canadian pharmaceutical industry. Member companies of the American Pharmaceutical

Manufacturers Association were surveyed regarding the reasons for establishing foreign affiliates. The leading considerations were given as tariff and trade restrictions (listed by 95 percent of respondents as "important"), legal requirement for local production (85 percent) and "better servicing of existing work" (81 percent).[17] Apparently patent protection was not a major factor.

The Conservatives place considerable emphasis on the huge increases in research and development expenditures that will supposedly result from the new legislation.[18] But, it is not even clear that patent protection is the best way to encourage research. Some studies suggest that directly contracting for research services is a superior method for generating research.[19]

The multinational drug companies have consistently maintained since 1969 that they have not been investing in research and development in Canada because compulsory licensing has severely curtailed the lifespan of pharmaceutical patents. The inference is always that research and development spending was growing by leaps and bounds in the pre-1969 era. This inference is not borne out by the facts; total expenditures on research and development in 1967 represented only 3.5 percent of the value of factory shipments and this figure had actually grown to 3.8 percent in 1982.[20]

Any new spending is not going to result in Canada becoming a centre for basic pharmaceutical research. The Eastman Report concluded:

> Canada does not now possess either the scientific manpower or the physical infrastructure that would make it a major world centre for basic pharmaceutical research. Nor, in the opinion of the

> Commission, would it be wise for governments to seek to create such an environment in competition with heavily supported long-established centres in other countries.[21]

Eastman's opinion is echoed by Astra president Gerry McDole.[22]

For a final comment on the possibility of Canada developing an innovative pharmaceutical industry, the Medical Reform Group would like to refer back to the OECD study we cited earlier. The decision to try and persuade foreign companies to establish research facilities in Canada is termed by the OECD study a **low control** option. According to this study this type of strategy would have a tendency to make drugs more expensive and perhaps rather less safe. The overall assessment of this option is that it is not "particularly attractive."[23] The authors of the OECD study also note that whenever governments have deliberately tried to encourage pharmaceutical innovation, in countries where it only exists on a low level, "the results have been disappointing."[24]

Consumer and Corporate Affairs Minister Harvie Andre believes that more research automatically means better drugs.[25] Any evidence for this belief is lacking. An analysis of important new drugs introduced onto the U.S. market from 1955 to 1973 showed that from year to year there was little change in their absolute number despite a large increase in the overall amount of money being spent on research.[26]

Only 14.3 and 9.1 percent of new chemical entities approved for use in the United States in 1982 and 1984 respectively, represented drugs with significant therapeutic gain. Of 922 new molecular entities under study in the United States at the end of 1982 only 2.5 percent were felt to have the potential for significant therapeutic gain and 87.0 percent were of little or no

therapeutic gain.[27] The Medical Reform Group believes that most of the promised investment in research and development will go towards producing drugs in the latter category.

Mr. Andre spoke glowingly of the "3,000 new, high-quality jobs" that have been promised by the pharmaceutical companies.[28] We are extremely sceptical about this promise. In 1980 the entire Canadian pharmaceutical industry employed only 930 people in all of its research and development activities.[29] We find it hard to believe that employment in this area will be increased more than fourfold. Whatever the number of jobs that will be created most of them will be concerned with developing drugs of little new medical value. How well are the talents of the Canadian researchers and scientists going to be utilized? Haskell Weinstein, former acting medical director of the J.B. Roerig Division of Pfizer, deplored what he regarded as a waste of scientific talent:

> A great many extremely fine scientists are employed by these manufacturers. Their talents should not be expended on patent by-passing chemical manipulations, on ridiculous mixtures of drugs, or inconsequential additives to established drugs. Since the number of well-trained capable scientists is severely limited, their potential should not be wasted.[30]

In the same vein, the U.S. Task Force on Prescription Drugs concluded:

> To the extent that an industry devotes a considerable share of its research program to the development of what have been termed duplicative and noncontributory products, there

research facilities, a waste of clinical facilities needed to test the products.[31]

Based on our analysis, the Medical Reform Group feels that whatever new investment that is generated will mostly result in unnecessary drugs and a misallocation of Canadian research talent.

In summary, looking at all the proposed benefits from Bill C-22, the Medical Reform Group concludes that their value ranges from nil to minimal.

II The Costs

Although Mr. Andre maintains that the proposed legislation will not cause any rise in the price of existing drugs, he offers no guarantees about the costs of drugs introduced in the future. The Drug Prices Review Board is supposed to ensure that prices charged for these drugs are not excessive, but we have already outlined the problems that the Medical Reform Group sees in the Board's operations.

What is certain is that for most new drugs there will not be any generic competition for the first ten years that they are on the market. As Table 2 demonstrates, the more the number of companies selling a drug, the greater the potential savings to the consumer. Using figures from the Eastman Report, the Medical Reform Group has identified a group of three drugs which had generic competition by 1982 although they had been available for less than ten years. Sales for these drugs in 1982 were $76,435,000. Under the proposed legislation these drugs would not have had any generic competitors. Our estimate of sales of the three drugs in the absence of generic competition, based upon Eastman's research, is $149,873,000. Therefore, on these three drugs alone, generic competition resulted in a savings of $73,438,000 in one year (See Table 3).

There can be no doubt that if the proposed bill is passed that new drugs will be more expensive than they would be under the current system of compulsory licensing. Besides the additional costs to individual consumers and the provincial drug plans, the Medical Reform Group is seriously concerned that higher costs will deter patients from filling prescriptions and thereby adversely affect their health. A follow-up study was done on patients who were taking "essential medication" upon discharge from a hospital in London, Ontario. It was found that almost one third of the time the cost of the drugs was a significant factor in explaining why medications were not taken properly.[32] In a second study, this time of patients discharged from hospital in Halifax, 31 out of 199 did not fill their prescriptions because of the high cost of the drugs.[33]

The Medical Reform Group concludes that there would be significant negative economic and health care costs if Bill C-22 is passed.

CONCLUSION

The current legislation is doing the job it was intended to do, saving Canadians money, while doing little harm to the multinational drug companies. The proposed revisions to the Patent Act contained in Bill C-22 would confer a great benefit on the multinationals, without any reciprocal benefits for Canada or Canadians. Most new research done would be of little medical value; the number of new research jobs promised is highly unrealistic and most of the jobs created would result in a misallocation of Canadian talent; the cost of new drugs would be signficantly elevated; and people's health could suffer. For all these reasons, the Medical Reform Group believes that the greatest social good would result from leaving the Patent

believes that the greatest social good would result from leaving the Patent Act as it is and we therefore stand by our resolution of October 1983 and call on the government to abandon its plans to change the Patent Act.

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[1]Commission of Inquiry on the Pharmaceutical Industry, *Report*, Supply and Services Canada, Ottawa, 1985, p.158.

[2] *Ibid*, p.277.

[3] *Ibid*, p.68.

[4] *Ibid*, p.315.

[5]Consumer and Corporate Affairs Canada, *Patent Act Reform: Pharmaceutical Policy*, undated.

[6]Commission of Inquiry, *op. cit.*, p.155.

[7]Consumer and Corporate Affairs, *op. cit.*, p.14.

[8]Canada, Royal Commission on Health Services, *Report*, Volume 1, Queen's Printer, Ottawa, 1964, p.693.

[9]Commission of Inquiry, *op. cit.*, pp.431-9.

[10]J.J. Friedman & Associates, *Pharmaceutical Prices in Canada: Guiding Principles for Government Policy*, Pharmaceutical Manufacturers Association of Canada, Ottawa, 1981, p.90.

[11]Consumer and Corporate Affairs, *op. cit.*, p.4.

[12] *Ibid*, p.2.

[13]D. Westell, "New Drug Law May Not Mean Much Change," *Globe and Mail*, November 11, 1986, pp.B1-2.

[14]Department of Industry, Trade and Commerce, *The Health Care Products Industry in Canada*, Ottawa, 1980, p.5.

[15]M.L. Burstall, J.H. Dunning and A. Lake, *Multinational Enterprises, Governments and Technology--The Pharmaceutical Industry*, OECD, Paris, 1981.

[16] *Ibid*, p.173.

[17]Pharmaceutical Manufacturers Association, *Survey of Potential Effects on U.S. Pharmaceutical Industry of Barke-Hartke Bill S.2592, 92nd Congress*, Washington D.C., 1972.

[18] *Notes for Remarks by the Honourable Harvie Andre*, November 6, 1986, p.1.

[19]B.D. Wright, "The Economics of Invention Incentives: Patents, Prizes, and Research Contracts," *American Economic Review*, 73:691-707, 1983.

[20]Commission of Inquiry, *op. cit.*, p.62.

[21] *Ibid* p.423.

[22]D. Westell, *op. cit.*, p.B2.

[23]M.L. Burstall, *op. cit.* p.234.

[24] *Ibid*, p.232.

[25]Notes, *op. cit.*,p.3.

[26]B. Teso, *Technical Change and Economic Policy. Sector Report: The Pharmaceutical Industry*, OECD, Paris, 1980, p.36.

[27]Commission of Inquiry, *op. cit.*, p.242.

[28]Notes, *op. cit.*, p.3.

[29]Canadian Drug Manufacturers Association, *Pharmaceutical Patents: Compulsory Licensing. A Case for the Retention of Section 41(4) of the Patent Act*, Toronto, 1983, p.29.

[30]U.S. Senate, Committee on the Judiciary, Subcommittee on Antitrust and Monopoly, *Hearings on Administered Prices in the Drug Industry*, U.S. Government Printing Office, Washington, D.C., Part 18, 1960, p.10254.

[31]Task Force on Prescription Drugs, *The Drug Makers and the Drug Distributors*, U.S. Government Printing Office, Washington, D.C., 1968, p.21.

[32]"Cost Factor in Misuse of Drug Medication," *Drug Merchandising*, 55:12, April 1974.

[33]F.N. Brand, R.T. Smith and P.A. Brand, "Effect of Economic Barriers to Medical Care on Patients' Compliance," *Public Health Reports*, 92:72-8, 1977.

Table 1: Rate of Return on Capital Employed, Before Taxes, 1970-1982

Year	Pharmaceutical Manufacturing (%)	All Manufacturing (%)	Rank of pharmaceutical industry out of 87 manufacturing industries
1970	20.9	8.2	3
1971	23.8	9.5	2
1972	23.8	10.8	3
1973	22.3	15.2	11
1974	25.0	17.3	8
1975	22.6	13.4	10
1976	19.4	11.7	13
1977	18.7	10.8	13
1978	20.4	12.8	12
1979	24.9	16.2	10
1980	27.1	14.7	4
1981	27.8	11.9	1
1982(prelim.)	26.1	3.3	2
Average	23.3	12.0	7

Source: Statistics Canada, *Corporation Financial Statistics--Detailed Income and Retained Earning Statistics for 182 Industries*, Ottawa, various years.

Table 2: Effect of Competition on Drug Prices

Ontario 1985

No. of suppliers of drug	2	3	4	5	6	7	8	10
Price of least expensive brand as a percent of most expensive brand	81.3	71.6	60.4	55.2	42.3	26.1	36.3	27.5

Calculated from: *Ontario Drug Benefit Formulary*, January 1985.

Manitoba 1985

No. of suppliers of drug	2	3	4	5	6
Price of least expensive brand as a percent of most expensive brand	73.5	49.2	48.0	29.4	17.4

Calculated from: *Manitoba Drug Standards and Therapeutics Formulary*, January 1985.

Table 3: Saving in Drug Costs Due to Generic Competition

Drug	Notice of Compliance	Actual 1982 Sales ($000)	Estimated 1982 sales in absence of generic competition* ($000)	Savings due due to generic competition ($000)
Cimetidine	May 1977	44,250	86,765	42,515
Naproxen	June 1974	29,078	57,016	27,938
Trimetoprim	Aug 1973	3,107	6,092	2,985
Total		76,435	149,873	73,438

*Eastman estimated that, in 1982, without generic competition, drugs would have been 49 percent more expensive. (Commission of Inquiry, *op. cit.*, p.317)