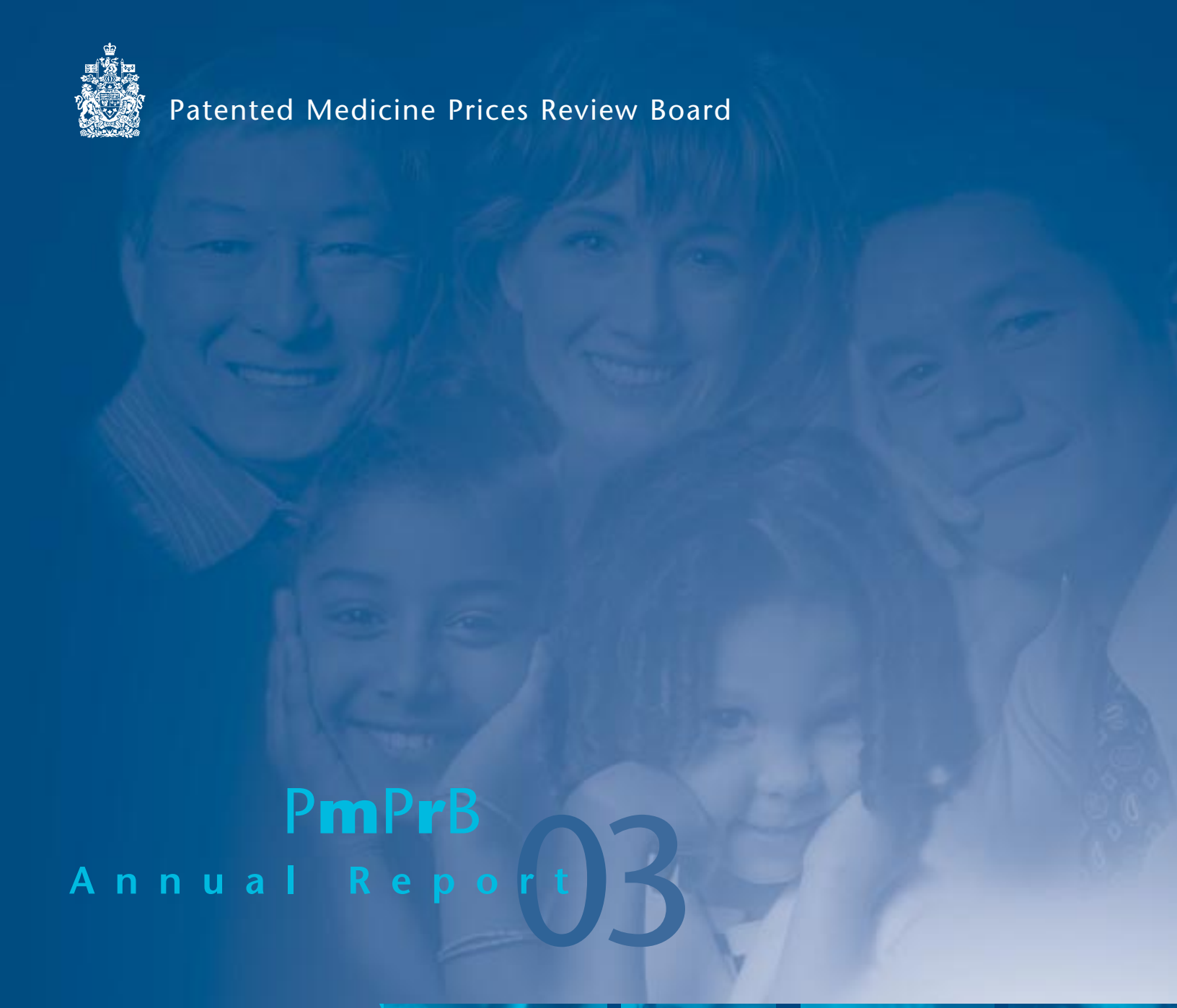
Patented Medicine Prices Review Board



PmPrB Annual Report 03

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Canada

Since 1987
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The mission of the Patented Medicine Prices Review Board (PMPRB) is to contribute to Canadian health care by ensuring that prices of patented medicines are not excessive and by analyzing and reporting to Canadians on price trends of all medicines and on research and development conducted by patentees. The PMPRB achieves this by:

- promoting voluntary compliance with the Guidelines established by the Board;
- reviewing prices and taking remedial action when necessary;
- consulting with interested parties on Guidelines and other matters of policy; and
- fostering awareness of the Board's mandate, activities and achievements through communication, dissemination of information and public education.

In fulfilling the mission we are committed to innovative leadership based on the following values:

- effectiveness and efficiency;
- fairness;
- integrity;
- mutual respect;
- transparency;
- a supportive and challenging work environment.

To obtain our publications, log on to our website: **www.pmprb-cepmb.gc.ca** or call us at our toll-free number: 1 877 861-2350.

The Patented Medicine Prices Review Board
Standard Life Centre
Box L40
333 Laurier Avenue West
Suite 1400
Ottawa, Ontario
K1P 1C1

Telephone: (613) 952-7360
Facsimile: (613) 952-7626
TTY: (613) 957-4373

All PMPRB publications are available in both official languages.

Highlights for 2003

SALES

- Total sales of all drugs for human use by manufacturers in Canada increased 14.5% from 2002 to $15.0 billion.
- Sales of patented drugs increased by 14.8% to $10.1 billion in 2003. Patented drugs account for 67.4% of total drug sales, unchanged from the previous year.

COMPLIANCE

- In total, there were 70 new patented drug products introduced in 2003, including 18 new active substances. As of March 31, 2004, 64 new patented drug products had been reviewed. Of those, 52 were considered to be within the Guidelines and 12 were priced at levels which appeared to be outside the Guidelines and investigations were commenced.

PMPRB

Annual Report 03

PHARMACEUTICAL TRENDS

- The manufacturers' prices of patented drugs, as measured by the Patented Medicine Price Index (PMPI) fell by 1.1% in 2003. This result continues the pattern of declines and near-negligible increases in the PMPI that began in 1993.
- From 1995 to 2001 Canadian prices for patented drugs were between 5% to 12% below the median of foreign prices in the seven countries used for price comparison purposes. In 2002, the prices of patented medicines in the Canadian market were about 1% higher than the median of foreign prices. However, in 2003, prices returned to the mid-1990s levels, about 5% lower than the median of foreign prices in the seven countries. Canadian prices were lower than prices in the U.K., Germany, Switzerland and the U.S. and higher than those in France, Italy, and Sweden.

RESEARCH AND DEVELOPMENT

- Patentees reported total R&D expenditures of $1.19 billion in 2003, a decrease of 0.5% from the $1.2 billion in the previous year. The R&D-to-sales ratio for all patentees declined to 8.8% in 2003 from 9.9% in 2002 as did the R&D-to-sales ratio for members of Rx&D to 9.1% from 10.0% the previous year.

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- Expenditures on basic research fell by 9.3% in 2003 relative to 2002. Expenditures on basic research totaled $180 million in 2003, representing 15.7% of current R&D expenditures.

May 31, 2004

The Honourable Pierre S. Pettigrew, P.C., M.P.
Minister of Health
House of Commons
Ottawa, Ontario
K1A 0A6

Dear Minister:

I have the honour to present to you, in accordance with sections 89 and 100 of the *Patent Act*, the Annual Report of the Patented Medicine Prices Review Board for the year ended December 31, 2003.

Yours very truly,

Robert G. Elgie
Chairperson

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List of Tables and Figures

PATENTED DRUG PRODUCTS FOR HUMAN USE AND CANADIAN PATENTEES, JANUARY 1, 2003 – DECEMBER 31, 2003

This list is available on the PMPRB website: www.pmprb-cepmb.gc.ca, under Patented Medicines, or by calling our toll-free number: 1 877 861-2350

Chairperson's Message

Open any newspapers, listen to any newscast or talk show, follow any political discussion and the subject of healthcare is rarely far from the number one topic. This fact has been noted in numerous of our publications. However, there is a change occurring. As Canadians increasingly focus on health care, its sustainability and future direction, there is a growing desire for more information on how the system works and what is needed to make it more responsive to the needs of Canadians.

The Patented Medicine Prices Review Board is part of that process. With a two-fold mandate, the PMPRB regulates prices of patented medicines to ensure that they are not excessive and also provides key information on price trends of all medicines and their utilization, to assist public drug plans in making better decisions. In the context of Canada's health care policy debate, it is the latter role of informing and educating that is becoming an increasingly important part of the PMPRB's contribution to the health care system.

Informing Canadians and decision-makers is not without its challenges. Pharmaceutical price regulation is a complex topic. There are many positions, players, and perspectives. By nature, media coverage often tends to focus on the more dramatic issues and controversies related to health care. Ironically, in an era when technology permits increasing opportunities for communication, such as through the internet and numerous media outlets, finding a focus for informed debate and exchange of ideas remains a challenge.

The PMPRB seeks to provide factual information on price trends and through its federal, provincial and territorial collaboration, on utilization and on other issues related to pharmaceutical management. In addition to its website, the PMPRB offers a publication program and an information service, and participates in conferences and symposiums. Nonetheless, the PMPRB continues to look for new opportunities to assist Canadians in better understanding the issues relating to pharmaceuticals as a major component of the health care system in this country.

The Annual Report is one of our primary communication vehicles. We seek to provide stakeholders with a current overview of the role of pharmaceuticals in health care. We see this report as an important opportunity to enhance public awareness and understanding. But we also view the Annual Report as an opportunity to build interest and solicit feedback from Canadians.

Of increasing importance of course is finding ways to closely align what the PMPRB does with the work of other players in the system, in terms of both providing opportunities for information sharing and streamlining our processes. A prime example is the Common Drug Review, the federal/provincial/territorial initiative to provide reviews and formulary listing recommendations to participating public drug plans. The PMPRB is an observer on the Common Drug Review Committee and is taking that process into consideration in developing enhancements to the timeliness of our price review work.

It is important for payers and patients to know if the price of a drug is within the Guidelines when the time comes to purchase a drug or decide whether to reimburse it. Many new drugs raise complex questions that require expert review. Patentees often present novel submissions and request frequent additional opportunities to provide more evidence and make further submissions (the so-called "dribs and drabs approach"). In response to these pressures, and building on recommendations from a working group of stakeholders, we embarked on a Timelines Review Project. Our current challenge is to ensure that the timing of the PMPRB price review takes into account planned changes to the review by Health Canada for safety and efficacy and the Common Drug Review activities.

In 2003, we undertook several initiatives in preparation for further changes and public consultation in the future. We have enhanced the scientific review process and conducted an internal review of operating procedures. This review has led to greater internal efficiencies and will help set the stage for public consultations on more rigorous timelines in the future.

Continuing to find ways to bring greater alignment to the timing of the various review processes in Canada will work to the benefit of Canadian consumers, patients, and our health care system; it should also benefit manufacturers. We encourage manufacturers to take advantage of opportunities to streamline the process by filing with the PMPRB their submissions to the Common Drug Review. We further encourage manufacturers to seek advice on pricing before bringing a drug to market.

Like all other developed countries, Canada will continue to experience significant financial pressures in its public health care system and in its drug programs. We need to further enhance our information sources and analytical abilities to understand trends in drug utilization and how best to design policies to address public concerns.

In improving and strengthening the health care system, Canadians expect their governments to work together. The National Prescription Drug Utilization Information System and the Common Drug Review, referred to further in this Report, provide prime examples of the benefits of collaboration. Canadians are also demanding greater transparency and accountability on the part of public and private institutions. This means effective communications and access to timely and accurate information on new drugs, their prices, and evidence to support their most appropriate utilization.

We continue to regulate prices of patented medicines and to monitor and study trends in pharmaceutical prices in Canada and other countries to ensure that our Guidelines reflect the objectives of the *Patent Act* and serve to protect Canadians from excessive prices for patented drugs.

Above all, we recognize the growing importance of the PMPRB's information-sharing responsibilities and will maintain a strong focus in the future on working with our stakeholders and partners in carrying out our regulatory and information activities for the benefit of all Canadians.

The effectiveness of the PMPRB in carrying out its mandate ultimately depends on the quality and dedication of both our staff and Board members. In this context, I would like to acknowledge the efforts and contributions of our employees. I would like to offer my particular thanks to Dr. Ingrid Sketris and Dr. Anthony Boardman for their invaluable participation in the work of the Board as Members over the last five years. I wish them the best of luck in their future endeavours.

Robert G. Elgie

About the Patented Medicine Prices Review Board: Mandate and Jurisdiction

The Patented Medicine Prices Review Board is an independent quasi-judicial body established by Parliament in 1987 under the *Patent Act* (Act). The Minister of Health is responsible for the pharmaceutical provisions of the Act as set out in sections 79 to 103.

Although the PMPRB is part of the Health Portfolio, it carries out its mandate at arms-length from the Minister of Health.[1] It also operates independently of other bodies such as Health Canada, which approves drugs for safety and efficacy, and public drug plans, which approve the listing of drugs on their respective formularies for reimbursement purposes.

MANDATE

The PMPRB has a dual role:

Regulatory – To protect consumers and contribute to Canadian health care by ensuring that prices charged by manufacturers for patented medicines are not excessive;

Reporting – To contribute to informed decisions and policy making by reporting on pharmaceutical trends and on the R&D spending by pharmaceutical patentees.

JURISDICTION

Regulatory – The PMPRB is responsible for regulating the prices that patentees charge, the "factory-gate" price, for prescription and non-prescription patented drugs sold in Canada to wholesalers, hospitals or pharmacies, for human and veterinary use, to ensure that they are not excessive. The PMPRB regulates the price of each patented drug product, including each strength of each dosage form of each patented medicine sold in Canada. This is normally the level at which Health Canada assigns a Drug Identification Number (DIN).

In Canada, Health Canada assesses new medicines to ensure that they conform with the *Food and Drugs Act* and *Regulations*. Formal authorization to market or distribute a medicine is granted through a Notice of Compliance (NOC). A medicine may be temporarily distributed with specified restrictions before receiving a NOC, as an Investigational New Drug or under the Special Access Program.

The PMPRB has no authority to regulate the prices of non-patented drugs, including generic drugs sold under compulsory licenses, and does not have jurisdiction over prices charged by wholesalers or retailers nor over pharmacists' professional fees. Also, matters such as distribution and prescribing are outside the purview of the PMPRB.

Under the *Patented Medicines Regulations*, patentees are required to file price and sales information twice a year for each strength of each dosage form of each patented medicine sold in Canada for price regulation purposes. Patentees are also required to file R&D expenditures once a year for reporting purposes.

Manufacturers are also required to inform the PMPRB of their intention to sell a new patented medicine but are not required to obtain approval of the price before they do so.

Patentees are required to comply with the *Patent Act* to ensure that prices of patented medicines sold in Canada are not excessive. In the event that the Board finds, after a public hearing, that a price is excessive in any market it may order the patentee to reduce the price and take measures to offset any excess revenues it may have received.

Reporting – The PMPRB reports annually to Parliament through the Minister of Health. The Annual Report, which covers the calendar year, includes a review of the PMPRB's major activities, analyses of the prices of patented medicines and of the price trends of all drugs, and reports on the R&D expenditures as reported by patent-holding drug manufacturers. In addition, the PMPRB reports through its quarterly NEWSletter and various studies.

Pursuant to an agreement by the Federal/Provincial/Territorial Ministers of Health and at the request of the federal Minister of Health, the PMPRB conducts research under the National Prescription Drug Utilization Information System (NPDUIS). The purpose of the NPDUIS is to provide critical analyses of price, utilization and cost trends so that Canada's health system has more comprehensive, accurate information on how prescription drugs are being used and on sources of cost increases.

1 The Health Portfolio contributes to specific dimensions of improving the health of Canadians. It comprises Health Canada and three agencies, the Canadian Institutes of Health Research, the Hazardous Materials Information Review Commission and the Patented Medicine Prices Review Board.

SALES OF DRUGS IN CANADA

Total manufacturers' sales of pharmaceuticals for human use are estimated at $15 billion in 2003, an increase of 14.5% over sales in 2002. Patentees reported sales of patented medicines of $10.1 billion, an increase of 14.8% over the previous year.

Figure 1 divides total pharmaceutical sales by manufacturers for 1990 to 2003 into sales of patented, non-patented brand name and generic drugs.

COMPLIANCE AND EXCESSIVE PRICE GUIDELINES

Pharmaceutical patentees are required, under section 82 of the *Patent Act* (Act), to notify the PMPRB of their intention to offer a drug product for sale and the date on which they expect to begin selling it.

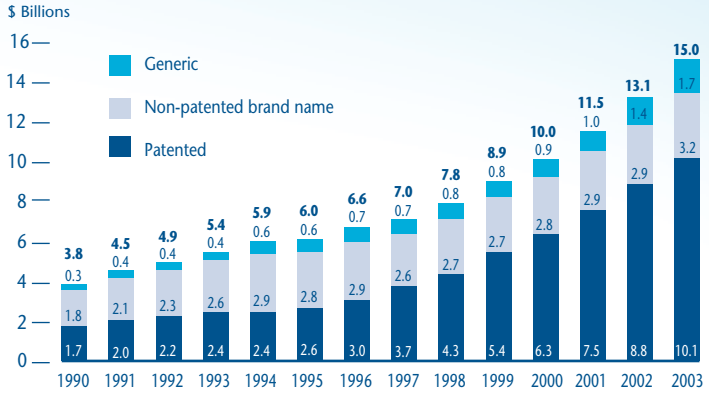
Under the *Patented Medicines Regulations, 1994* (Regulations), patentees are subsequently required to:

- file a Medicine Identification Sheet (Form 1) within 30 days after the issuance of a Notice of Compliance or the date on which the drug product was first offered for sale in Canada, whichever comes first;
- report information on the introductory prices and sales of new patented medicines (Form 2) within 60 days of the date of first sale; and
- continue to file detailed information on prices and sales of each patented drug for the first and last six-month period of each year (Form 2) for as long as the drug remains patented.

The PMPRB reviews the pricing information for all patented medicines sold in Canada on an ongoing basis to ensure that the prices charged by patentees comply with the Price Guidelines established by the Board. The Guidelines are published in the PMPRB's *Compendium of Guidelines, Policies and Procedures* (Compendium) and are available on the website under Legislation, Regulations, Guidelines or by calling our toll-free number: 1 877 861-2350.

FIGURE 1

Manufacturers' Sales of Patented and Non-Patented Drugs, 1990-2003



Sources: PMPRB and IMS Health

PRICE GUIDELINES

The Guidelines are based on the price determination factors in section 85 of the Act and have been developed in consultation with stakeholders, including the provincial and territorial Ministers of Health, consumer groups and the pharmaceutical industry. In summary, the Guidelines provide that:

- prices for most new patented drugs are limited such that the cost of therapy for the new drug does not exceed the highest cost of therapy for existing drugs used to treat the same disease in Canada;
- prices of breakthrough patented drugs and those which bring a substantial improvement are generally limited to the median of the prices charged for the same drug in other industrialized countries listed in the Regulations (France, Germany, Italy, Sweden, Switzerland, U.K. and U.S.);
- price increases for existing patented medicines are limited to changes in the Consumer Price Index (CPI); and
- the price of a patented drug in Canada may, at no time, exceed the highest price for the same drug in the foreign countries listed in the Regulations.

Board Staff reviews the prices of all patented medicines sold in Canada. When it finds that the price of a patented drug product appears to exceed the Guidelines, and the circumstances meet the criteria for commencing an investigation, Board Staff will conduct an investigation to determine the facts. Additional information on the criteria for commencing an investigation is available in Annex 1 on page 46. An investigation could result in:

- its closure where it is concluded that the price was within the Guidelines;
- a Voluntary Compliance Undertaking (VCU) by the manufacturer to reduce the price and take other measures to comply with the Guidelines; or
- a public hearing to determine if the price is excessive and to make a remedial order.

As part of the PMPRB's transparency initiative, beginning in 2001, the list of New Patented Medicines Reported to the PMPRB is posted on the PMPRB website every month. This list includes information on the status of the review (i.e., under review, within Guidelines, VCU, notice of hearing). Drug products "under review" also include drugs which are subject to an investigation.

New Active Substances in 2003

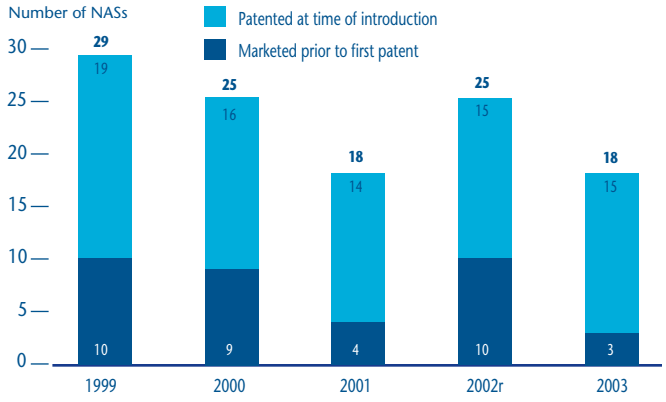
Health Canada reported 16 New Active Substances (NASs) in 2003 but not all were introduced to the market in that year.[2] The PMPRB's list of patented NASs in any year may differ from the list of NASs approved by Health Canada's Therapeutic Products Directorate (TPD) for the following reasons:

- the NAS is not patented and therefore not subject to the PMPRB's jurisdiction;
- the NAS may not be on the TPD list because it is being sold under the Special Access Program (SAP) before it receives a Notice of Compliance (NOC); or
- the NAS may have been approved, but is not being sold.

As shown in Figure 2 and Table 1 on page 11, three of the 18 patented NASs that came under the PMPRB's jurisdiction were sold prior to 2003.

Figure 2

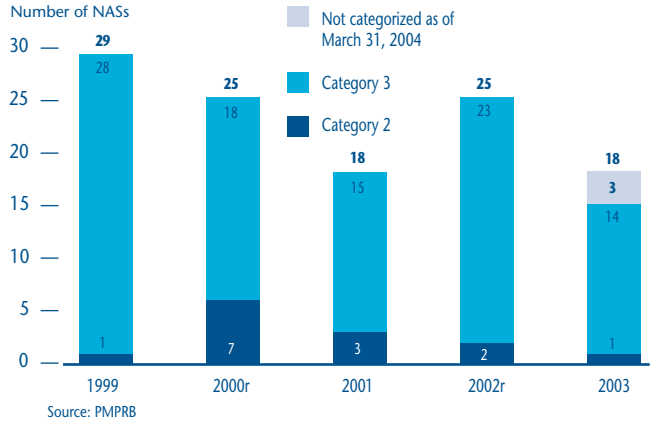
New Active Substances 1999-2003



r = revised since the release of the *PMPRB 2002 Annual Report*

Figure 3

New Active Substances by Category 1999-2003



Source: PMPRB

In 1999, there were two medicines classified as category 2. One was the medicine Rebetron, which was not a new active substance as it is a combination of two existing medicines (interferon + ribavirin). The second category 2 medicine was Herceptin, a NAS, as reported in the 2000 Annual Report.

r = revised since release of PMPRB 2002 Annual Report

2 Annual Drug Submission Performance Report, January-December 2003, Therapeutic Products Directorate, Health Canada.

Table 1 New Patented Medicines in 2003 (Human) — New Active Substances

New Active Substances Introduced in 2003

Brand Name	Chemical Name	Company	# DINs	ATC Class
Angiomax	bivalirudin	Oryx Pharmaceuticals Inc.	1	B01AE
Bextra	valdecoxib	Pfizer Canada Inc.	2	M01AH03
Cialis	tadalafil	Eli Lilly Canada Inc.	2	G04BE08
Crestor	rosuvastatin calcium	AstraZeneca Canada Inc.	3	C10AA07
Dukoral	cholera vaccine	Aventis Pasteur Limited	1	J07AE01
Elidel	pimecrolimus	Novartis Pharmaceuticals Canada Inc.	1	D11AX15
Ezetrol	ezetimibe	Merck Frosst Canada Inc.	1	C10AX09
Hectorol	doxercalciferol	Shire Biochem Inc.	1	A11CC
Invanz	ertapenem sodium	Merck Frosst Canada Inc.	1	J01DH03
Keppra	levetiracetam	Lundbeck Canada Inc.	3	N03AX14
Ketek	telithromycin	Aventis Pharma Inc.	1	J01FA15
Pegasys	peginterferon alfa-2a	Hoffmann La-Roche Canada	2	L03AB11
Solagé	mequinol/tretinoin	Galderma Canada Inc.	1	D11AX56
TNKase	tenecteplase	Hoffmann La-Roche Canada	1	B01AD11
Xigris	drotrecogin alfa	Eli Lilly Canada Inc.	2	B01AD10

New Active Substances Introduced prior to 2003[3]

Brand Name	Chemical Name	Company	# DINs	ATC Class
Agenerase	amprenavir	GlaxoSmithKline	3	J05AE05
Alertec	modafinil	Shire Biochem Inc.	1	N06BA07
Evra	norelgestromin/ethinyl estradiol	Janssen-Ortho Inc.	1	G03AA11

A NAS may include more than one DIN if it is sold in more than one strength or dosage form. The 18 NASs listed for 2003 were marketed as 28 presentations (DINs). Figure 3 provides a breakdown of the patented new active substances for human use, by category assigned for price review purposes, over the five-year period 1999 through 2003 inclusive.[4]

The 2000 information has been updated to reflect the review by the Human Drug Advisory Panel (HDAP)[5] in 2003 of Dostinex (cabergoline, Pfizer Canada Inc.). This medicine had been preliminarily reported as a category 3 in the 2000 Annual Report. For more information on Dostinex, please refer to page 15.

3 These drugs, which were on the market before 2003, came under the PMPRB's jurisdiction in 2003 with the issuance of a patent.

4 For purposes of the price review process, the PMPRB categorizes new drug products as follows:

- Category 1 - a new DIN of an existing or comparable dosage form of an existing medicine, usually a new strength of an existing drug (line extension).
- Category 2 - the first drug to treat effectively a particular illness or which provides a substantial improvement over existing drug products, often referred to as "breakthrough" or "substantial improvement".
- Category 3 - a new drug or new dosage form of an existing medicine that provides moderate, little or no improvement over existing medicines.

5 The Human Drug Advisory Panel (HDAP) is comprised of three independent scientific experts and provides recommendations for the categorization of new drug products and the selection of comparable drug products.

The HDAP recommended that one new patented medicine (2 DINs) should be classified as a category 2 new medicine in 2003:

- Xigris (drotrecogin alfa, Eli Lilly Canada Inc.), indicated for the treatment of sepsis. The summary report for Xigris is available on the PMPRB's website under Patented Medicines.

Since last year's Annual Report, Figures 2 and 3 have been updated to include the new active substance BLES (phospholipids/surfactant associated proteins B & C, BLES Biochemicals Inc.) which had been introduced in 2002. The manufacturer had not reported this drug product in time for the 2002 Annual Report. BLES was referred to the HDAP which in turn recommended that it be categorized as a category 3 new medicine. The price was reviewed and found to be within the Guidelines.

Summary Reports of the price reviews of NASs are posted on the PMPRB website when completed.

New Patented Drug Products in 2003

There were 70 new patented drug products, or DINs, for human use introduced in 2003. Some are one or more strengths of a NAS and others are new presentations of existing medicines.

For purposes of our price review, any patented drug product introduced on the market in Canada, or previously marketed but first patented, between December 1, 2002 and November 30, 2003, is considered a new patented drug product in 2003.[6]

Seven (10%) of the 70 new patented DINs were being sold in Canada prior to 2003 when the issuance of a Canadian patent brought them under the PMPRB's jurisdiction. These DINs are denoted by a "FPG" (first patent granted) in Annex 2 on page 47. Table 2 identifies the number of patented drug products by the year in which they were first sold. The time delay between the date of first sale and the date of patent grant for these products ranged from several months to nine years.

Table 2 New Patented Drug Products for Human Use in 2003 by Year First Sold

Year First Sold	# DINs
2003	63
2002	2
2001	3
1999	1
1996	1
Total	70

Price Review of New Patented Drugs for Human Use

A list of the 70 new patented drug products and their price review status as of March 31, 2004 appears in Annex 2 on page 47. Of the 70 new patented DINs, the prices of 64 of them had been reviewed. Of those, 52 were found to be within the Guidelines and 12 were priced at levels which appeared to be outside the Guidelines and investigations were commenced. For a more detailed explanation of the criteria for commencing an investigation, please refer to Annex 1 on page 46.

Price Review of Existing Patented Drug Products for Human Use

For the purpose of this report, existing medicines include all patented drug products that were introduced prior to December 1, 2002. The PMPRB's Guidelines limit the price changes for existing patented drugs to changes in the Consumer Price Index (CPI). In addition, the price of a patented drug cannot exceed the highest price of the same drug product in the countries listed in the Regulations (France, Germany, Italy, Sweden, Switzerland, U.K. and U.S.)

6 Because of the timing of the filing requirements under the *Patented Medicines Regulations* and the manner of calculating benchmark prices, drug products introduced or patented in December are considered to be new patented products in the following year.

A total of 974 existing patented drug products (DINs) for human use were sold during 2003. There were 67 investigations under way at the beginning of the year and during 2003 investigations were opened into six DINs with prices that appeared to be outside the Guidelines. Of the total 73 investigations, 34 were closed leaving 39 investigations into existing drugs ongoing at the end of the year.

At the time of this report:

- the prices of 891 existing DINs (91.5%) were within the Guidelines;
- 39 DINs were the subject of investigations commenced as a result of pricing in earlier periods;
- 3 DINs, all pertaining to Nicoderm, were the subject of a hearing under section 83 (see *Quasi-Judicial Activities* on page 16); and
- 41 DINs were still under review.

A summary of the review, compliance and investigation status, as of March 31, 2004, of the new and existing patented drug products for human use in 2003 is provided in Table 3.

Table 3 Patented Drug Products for Human Use Sold in 2003 Status of Price Review as of March 31, 2004

	New Drugs Introduced in 2003	Existing Drugs	Total
Within Guidelines	52	891	943
Under Review	6	41	47
Under Investigation	12	39	51
Notice of Hearing	-	3	3
Total	70	974	1044

During the past 12 months the PMPRB has focused on a number of initiatives internally with respect to the Timelines Review Project (refer to page 35) resulting in a significant reduction in the number of ongoing investigations from 67 at March 31, 2003 to 51 as of March 31, 2004.

Update of the 2002 Annual Report

In last year's Annual Report, it was reported that of the 1027 patented drug products for human use sold in 2002, the prices of 82 were still under review. The results of those reviews concluded that 52 had been within the Guidelines; five DINs were priced at levels that appeared to exceed the Guidelines and therefore investigations were opened. Twenty-five are still under review and included in Table 3.

In its 2002 Report, the Board had also reported that 67 DINs were under investigation. Of those, 34 investigations have been concluded: in 32 cases, the prices were ultimately found to be within the Guidelines. Two cases, Aromasin and Dostinex, were concluded as a result of Voluntary Compliance Undertakings (see Voluntary Compliance Undertakings on page 14).

Patented Drugs for Veterinary Use

In March 1999, the PMPRB implemented, on a trial basis, a complaints-driven process as an alternative means of reviewing the prices of patented veterinary medicines. For further information, refer to the Pilot Project for a Complaints-driven Approach for the Regulation of Patented Drug Prices for Veterinary Use on page 34.

There was a total of 89 patented drug products for veterinary use in 2003. Of those, two were introduced in 2003. In last year's Annual Report it was reported that 13 were under review. Eight of those have been found to be within the Guidelines and the remaining five, plus the two introduced in 2003, are still under review. The summary reports of the price review of veterinary drug products are made available on the PMPRB's website under Patented Medicines; Reports on New Patented Drugs for Veterinary Use.

ADVANCE RULING CERTIFICATE

Pursuant to subsection 98(4) of the *Patent Act* (Act), the PMPRB may issue an Advance Ruling Certificate (ARC) in respect of the price of a patented medicine when it is satisfied that it would not have sufficient grounds to make an order under section 83 of the Act.

Viread, Gilead Sciences Inc.

On April 13, 2004, the Chairperson released a Notice and Comment proposing to issue an ARC pursuant to subsection 98(4) of the Act in respect of the price of the patented medicine Viread.

Following negotiations between Gilead Sciences Inc. (Gilead) and Board Staff, Gilead requested the issuance of an ARC in respect of the proposed average selling price of $15.12 per 300 mg tablet of Viread. Board Staff recommended that it would be appropriate for the Board to conclude that it would not have sufficient grounds to make an order under section 83 of the Act with respect to Viread taking into consideration the factors set out in section 85 of the Act:

(a) The proposed Canadian selling price for Viread in 2004 is well below the median of the international prices; it will be the second lowest of the seven comparator countries;

(b) It reflects the relationship of the price of Viread to other medicines in the same therapeutic class in countries other than Canada;

(c) It is consistent with the policies of the Board that patentees should seek advisory assistance with respect to the proposed price of a patented medicine; and

(d) Price changes in future years will be subject to the Guidelines.

Persons who wished to make representations in this matter were to file a written submission with the Board by May 7, 2004. Gilead and Board Staff were given the opportunity to make written submissions in response to any written submissions received no later than May 25, 2004.

Viread is indicated for the treatment of HIV-1 infection. Health Canada issued a Notice of Compliance with Conditions to Gilead Sciences Inc. for Viread 300 mg tablet on March 18, 2003. Viread was first marketed in Canada on March 15, 2004.

The Chairperson's decision in this matter will be released and posted on the PMPRB's website as soon as he has had the opportunity to consider the submissions received.

The Notice and Comment and proposed ARC are available on the PMPRB website under Publications; Notice and Comment – Viread.

VOLUNTARY COMPLIANCE UNDERTAKINGS

Under the Compliance and Enforcement Policy, patentees are given an opportunity to make a Voluntary Compliance Undertaking (VCU) when Board Staff conclude, following an investigation, that a price appears to have exceeded the Board's Price Guidelines. Approval of a VCU by the Chairperson is an alternative to the commencement of formal proceedings through the issuance of a Notice of Hearing. Under the Board's Compliance and Enforcement Policy, a VCU can also be submitted following the issuance of a Notice of Hearing. A VCU submitted at this point must be approved by the Board.

In 2003, the Chairperson approved two VCUs for the patented medicines Aromasin and Dostinex.

In addition, on March 31, 2003, the Board approved a VCU submitted for the patented medicine Remicade.

In May 2004, before the release of this Annual Report, the Chairperson approved a VCU for the patented medicine One-Alpha.

Remicade, Schering Canada Inc.

On December 16, 2002, the Chairperson of the Board issued a Notice of Hearing to consider whether under sections 83 and 85 of the *Patent Act* (Act), the medicine Remicade had been, and is being, sold by Schering Canada Inc. (Schering) at prices exceeding the Guidelines. The matter was reported in the 2002 Annual Report at page 16.

Remicade is sold pursuant to a Notice of Compliance issued by Health Canada on June 6, 2001 for the treatment of Crohn's disease and to a Notice of Compliance issued on September 27, 2001 for the treatment of rheumatoid arthritis.

A pre-hearing conference was held in February 2003 and the matter scheduled to be heard by the Board commencing on April 22. On March 18, Schering and Board Staff filed a joint submission proposing that the Board approve a Voluntary Compliance Undertaking (VCU) to resolve issues raised by the Notice of Hearing. The Board accepted the VCU agreed to by Schering and Board Staff, benefiting patients with an immediate price reduction of approximately 20% and bringing the price of Remicade within the Board's Price Guidelines. The terms of the VCU required that the average transaction price not exceed $909.51 per vial for the balance of 2003. Under the Guidelines, future price increases for Remicade are limited to increases in the Consumer Price Index (CPI). Also, to offset excess revenues from past sales of Remicade, Schering made a payment to the Government of Canada in the amount of approximately $7.8 million.

Aromasin, Pharmacia Canada Inc.

On April 26, 2003, the Chairperson approved a VCU from Pharmacia Canada Inc. (Pharmacia) for the drug product Aromasin (exemestane). A report of the VCU was published in the 2002 Annual Report on page 16.

Dostinex, Pfizer Canada Inc.

On October 21, 2003, the Chairperson approved a VCU from Pfizer Canada Inc. for Dostinex (cabergoline).

Dostinex was introduced in Canada by Pharmacia Canada Inc. (now Pfizer Canada Inc.) on June 30, 2000 and is used for the treatment of hyperprolactinaemia, inhibition of physiological lactation and suppression of established lactation. On November 8, 2000 the patent pertaining to Dostinex expired and the manufacturer submitted that it was not subject to the jurisdiction of the PMPRB after that date. There are four patent applications which pertain to Dostinex, but none of the patents have issued. Dostinex continues to be available on the Canadian market. It is listed in the June 2003 edition of the "Liste de médicaments du Québec" at $12.65 per tablet.

For the purposes of the PMPRB's Guidelines, Dostinex was classified as a category 2 new medicine in that it represented a substantial improvement in therapeutic effects. The median of international prices identified in an International Price Comparison Test was applied; the introductory price of Dostinex exceeded the maximum non-excessive (MNE) price with resulting excess revenues of $42,116.31 during the period June 30 to November 8, 2000.

The terms and conditions of the VCU were agreed to between Board Staff and the patentee. Having considered the evidence before him, the Chairperson approved the VCU submitted by Pfizer. Under the terms of the VCU, Pfizer undertook to offset excess revenues received for the sales of Dostinex for the period June 30 to November 8, 2000 by making a payment to the Government of Canada in the amount of $42,116.31.

One-Alpha, LEO Pharma Inc.

On May 6, 2004, the Chairperson approved a VCU from LEO Pharma Inc. for One-Alpha (alfacalcidol).

One-Alpha is indicated for the management of hypocalcemia, secondary hyperparathyroidism and osteodystrophy in patients with chronic renal failure.

LEO Pharma began selling One-Alpha on January 1, 2001. Its patent expired on May 12, 2004.

For purposes of the PMPRB's Excessive Price Guidelines, One-Alpha injectable was classified as a category 3 medicine as it represented a new dosage form of an existing medicine. Prior to the introduction of the parenteral formulation, One-Alpha was available in oral capsule and in drops. By applying the Guidelines, Board Staff concluded that the price of One-Alpha of $15.00 per ml exceeded the maximum non-excessive (MNE) price in 2001 of $12.50 per ml by 20%. Although the price was lowered in 2002 and 2003, it continued to exceed the Excessive Price Guidelines by less than 5%. As a result, Board Staff calculated that LEO Pharma received excess revenues of $23,049.10 during the period January 1, 2001 to December 31, 2003.

Under the terms and conditions of the VCU, LEO Pharma undertook to reduce the average selling price of One-Alpha within 30 days of acceptance of the VCU so that the average price for 2004 does not exceed the 2004 MNE price of $13.3750 per ml. To offset excess revenues received during the period of January 1, 2001 to December 31, 2003, LEO Pharma made a payment to the Government of Canada in the amount of $23,049.10.

The prices of Aromasin and Remicade will remain under the Board's jurisdiction until the expiry of their respective patents.

Pursuant to section 103 of the *Patent Act*, the Minister of Health may enter into agreements with any province respecting the distribution of amounts collected as a result of orders made under the Act.

The VCUs are available on the PMPRB website under Publications.

QUASI-JUDICIAL ACTIVITIES

Fasturtec, Sanofi-Synthelabo Canada Inc.

On May 21, 2004, the Chairperson of the Board issued a Notice of Hearing to consider whether, under sections 83 and 85 of the Act, the medicine Fasturtec is being or has been sold by Sanofi-Synthelabo Canada Inc. in any market in Canada at prices exceeding the Guidelines.

Fasturtec has been sold under Health Canada's Special Access Program since May 21, 2002. It is indicated for the treatment and prevention of hyperuricemia in paediatric and adult cancer patients. It is administered intravenously.

The Board has scheduled a public hearing for August 23, 2004, and a pre-hearing conference for July 6, 2004.

All requests for information should be addressed to the Secretary of the Board.

Remicade, Schering Canada Inc.

On December 16, 2002, the Chairperson of the Board issued a Notice of Hearing to consider whether under sections 83 and 85 of the Act, the medicine Remicade had been, and is being, sold by Schering Canada Inc. at prices exceeding the Guidelines. Details on this matter appear in the Voluntary Compliance Undertaking section of this report on page 15.

Nicoderm, Hoechst Marion Roussel Canada Inc.

On April 20, 1999, the Chairperson of the Board issued a Notice of Hearing to consider whether, under sections 83 and 85 of the Act Nicoderm is being, or has been, sold by Hoechst Marion Roussel Canada Inc. (HMRC) in Canada at a price that, in the opinion of the Board, is excessive and if so, what order, if any, should be made. The matter was reported on page 17 of last year's Annual Report.

Following the issuance of the Board's decisions, in 1999 and 2000 affirming its jurisdiction to conduct a hearing into the price of Nicoderm, HMRC commenced two judicial review applications in the Federal Court of Canada seeking to set aside the Board's decisions. These matters are currently under case management before the Federal Court.

Although the judicial review applications have not yet been heard on the merits, a number of interlocutory matters have been dealt with by the Federal Court and the Federal Court of Appeal.

On June 25, 2003, the Prothonotary of the Federal Court heard a motion for production of documents filed by HMRC seeking production of the Board Staff Report to the Chairperson. In a decision rendered on November 14, 2003, the Prothonotary denied HMRC's request. This decision was appealed to the Federal Court. On March 31, 2004, the Federal Court issued its decision denying HMRC's request for production of the Board Staff Report.

A hearing date for the judicial review applications has not yet been established, however it is anticipated that the hearing would proceed in late fall.

Nicoderm is a transdermal nicotine patch, indicated as an aid for smoking cessation for the partial relief of nicotine withdrawal symptoms.

> The Board's decisions are posted on the PMPRB website under Publications; Hearings.

Reporting Information on Key Pharmaceutical Trends

TRENDS IN MANUFACTURERS' SALES OF DRUGS IN CANADA AND OTHER COUNTRIES

As shown in Table 4, on page 19, the PMPRB estimates that total manufacturers' sales in Canada of pharmaceuticals for human use rose to $15 billion in 2003, a 14.5% increase over 2002.[7] This rate of growth is slightly more than the 13.9% recorded in the previous year, and constitutes the sixth successive year of annual increases exceeding 10%.

According to the information filed by patentees, sales of patented drugs rose by 14.8% to $10.1 billion in 2003. This rate of growth in 2003 was lower than any seen since 1996.

Figure 1, on page 9, shows sales of all medicines by type, including patented and non-patented drugs. Patented drugs made up 67.4% of total sales in 2003, unchanged from their share in 2002. The share of patented drug sales had risen steadily from 1996 (when patented products accounted for 45% of drug sales) to 2002.

Non-patented medicines include products for which all patents have expired, those that have not yet or never will be patented and generic copies of other medicines. Before 1996 sales of non-patented brand name drugs accounted for nearly half of total drug sales. This share has declined steadily, reaching 21.3% ($3.2 billion) in 2003. In contrast, the share of generic products in total drug sales has changed very little, standing at 11.7% ($0.7 billion) in 1996 and 11.3% ($1.7 billion) in 2003.

THE GLOBAL CONTEXT

It has been reported that manufacturers' sales in major world markets of drugs for human use were $409 billion in the year ending November 2003.[8] As shown in Figure 4, drug sales in Canada accounted for 2.8% of this total. The U.S. market is the largest in the world, with more than twice the combined sales of Canada, France, Germany, Italy, and the U.K.

7 Total sales by manufacturers are estimated by adding the total sales reported by patentees and an estimate of generic sales in Canada. Patentees are required, under the *Patented Medicines Regulations*, to submit to the PMPRB information showing their annual total pharmaceutical sales for both patented and non-patented drugs in Canada.

IMS Health publishes estimated sales of pharmaceuticals by individual firms. Generic sales are calculated by summing IMS Health estimates of sales among companies belonging to the Canadian Generic Pharmaceutical Association (CGPA). This year's increase of 16.4% in estimated generic sales reflects in part the inclusion of a company (Cobalt Pharmaceuticals Inc.) not covered by estimates in previous years (when the company was not a member of CGPA). Growth in generic sales was 15.9% in 2003 excluding this company.

Beginning with the year 1999, the calculation of manufacturers' sales of all drugs and patented drugs includes the sales of drug products for human use only.

8 IMS Health's Drug Monitor, November 2003 (www.imshealth.com). "Sales figures cover direct and indirect pharmaceutical channel purchases (pharmacies plus hospitals and mail order where indicated) from pharmaceutical wholesalers and manufacturers in 13 key international markets. Sales figures include prescription and certain over-the-counter data, and represent manufacturers' prices. These 13 countries account for over two thirds of the world market." The 13 countries include Argentina, Australia, Brazil, Canada, France, Germany, Italy, Japan, Mexico, New Zealand, Spain, the U.K. and the U.S.

Table 4 Manufacturers' Sales of All Drugs and Patented Drugs for Human and Veterinary Use 1990-1998; and Human Use 1999-2003

Year	Total		Patented		Patented Drugs as Percentage of Total
	Sales ($ billions)	Change * (%)	Sales ($ billions)	Change * (%)	
2003	15.0	14.5	10.1	14.8	67.4
2002	13.1	13.9	8.8	17.3	67.4
2001	11.5	15.0	7.5	18.9	65.0
2000	10.0	12.4	6.3	16.7	63.0
1999**	8.9	16.8	5.4	27.0	61.0
1998	7.8	11.4	4.3	18.9	55.1
1997	7.0	7.0	3.7	22.6	52.3
1996	6.6	10.0	3.0	12.8	45.0
1995	6.0	1.7	2.6	10.8	43.9
1994	5.9	9.3	2.4	-2.1	40.7
1993	5.4	12.5	2.4	9.4	44.4
1992	4.8	9.1	2.2	14.0	43.8
1991	4.4	18.9	2.0	13.1	43.2
1990	3.7	-	1.7	-	43.2

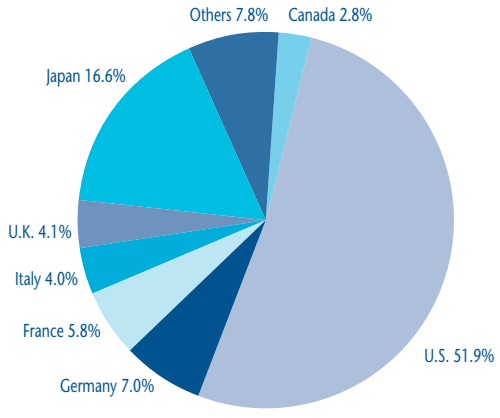
* Percentage changes are based on exact (not rounded) sales figures.

** The percentage change from 1998 of 16.8% for total drugs and 27.0% for patented drugs represents the change in sales of drugs for human use only.

Sources: PMPRB and IMS Health

FIGURE 4

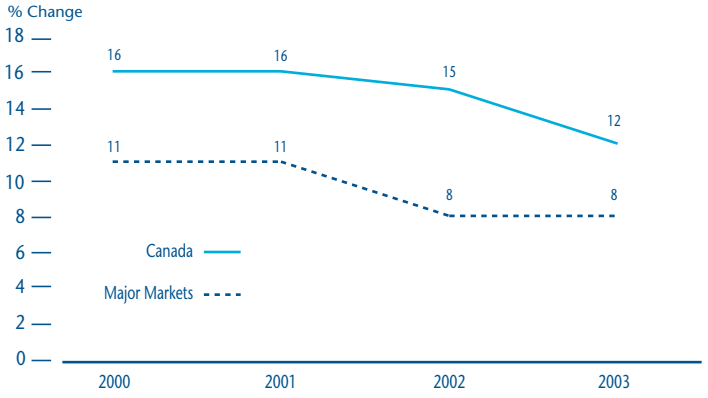
Share of Pharmaceutical Sales, 2003



Source: IMS Health

FIGURE 5

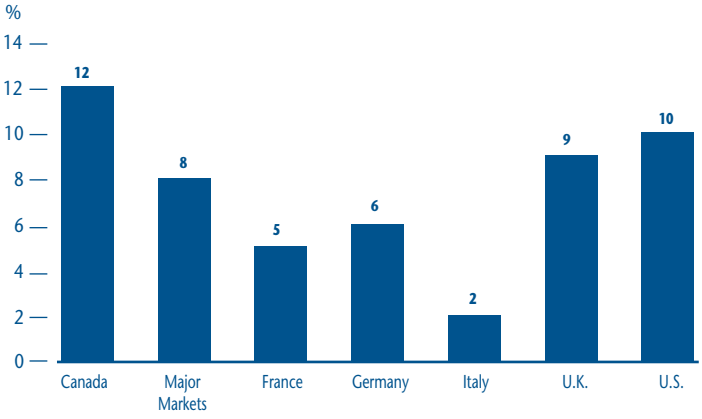
Year-over-Year Changes in Pharmaceutical Sales, 2000-2003



Source: IMS Health

FIGURE 6

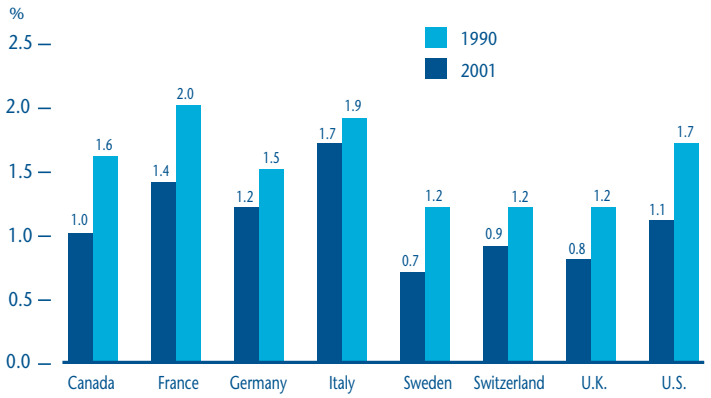
Growth in Pharmaceutical Sales for 2003



Source: IMS Health

FIGURE 7

Pharmaceutical Expenditures as a Share of GDP



Source: OECD

As shown in Figure 5, drug sales in Canada have grown faster in recent years than sales in other major markets according to IMS Health. Estimates published for the year ending November 2003 show sales growth in Canada has exceeded that in other major markets. As shown in Figure 6, year-over-year sales growth in Canada (12%) exceeded growth in the U.S. (10%), the U.K. (9%), Germany (6%), France (5%) and Italy (2%) in 2003.

Figure 7 depicts pharmaceutical expenditure as a percentage of GDP as reported by the OECD.[9] Each country experienced an increase in its pharmaceutical expenditure-to-GDP ratio between 1990 and 2001, with Canada's ratio rising from 1.0% to 1.6%. Canada's expenditure-to-GDP ratio nonetheless remained well within the range reported for the other countries, and only slightly below the U.S. ratio of 1.7%.

9 The measure of expenditures used here is the Organisation for Economic Cooperation and Development's (OECD) "total expenditure on pharmaceuticals and other medical non-durables". Although dominated by pharmaceuticals, this measure encompasses certain non-pharmaceutical drug-store items. It does not include drug expenditures by hospitals. This chart was developed using data from the OECD website at www.oecd.org.

TRENDS IN DRUG PRICES AND EXPENDITURES

PRICES OF PATENTED DRUGS IN 2003

To monitor the trends in manufacturers' prices of patented drugs the PMPRB maintains the Patented Medicine Price Index (PMPI). The PMPI measures average year-over-year changes in the ex-factory prices of patented drug products sold in Canada. The PMPI is updated annually using price and sales information reported by patentees.[10]

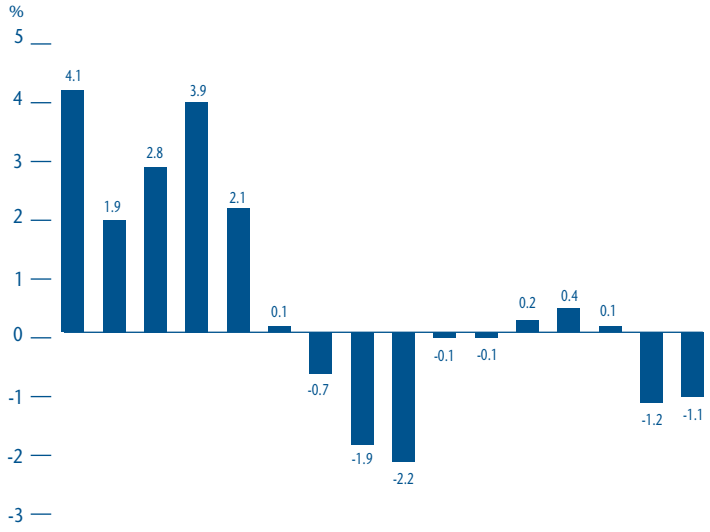
As measured by the PMPI, shown in Figure 8, manufacturers' prices of patented drugs fell by 1.1% in 2003. This result continues a pattern of declines and near-negligible increases that began in 1993. The price stability observed in 2003 was broadly based: the great majority of patented drug prices either fell or rose by less than 1% in 2003.

PRICE TRENDS OF ALL DRUGS – PATENTED AND NON-PATENTED

The *Patent Act* provides that, among other factors, the PMPRB shall consider changes in the Consumer Price Index (CPI) in determining whether the price of a patented medicine is excessive. Figure 9 shows that CPI-inflation has exceeded increases in patented drug prices, as measured by the PMPI, in almost every year since 1988.[11] This happened again in 2003, with CPI-inflation exceeding the rate of PMPI change by 3.9%.[12]

FIGURE 8

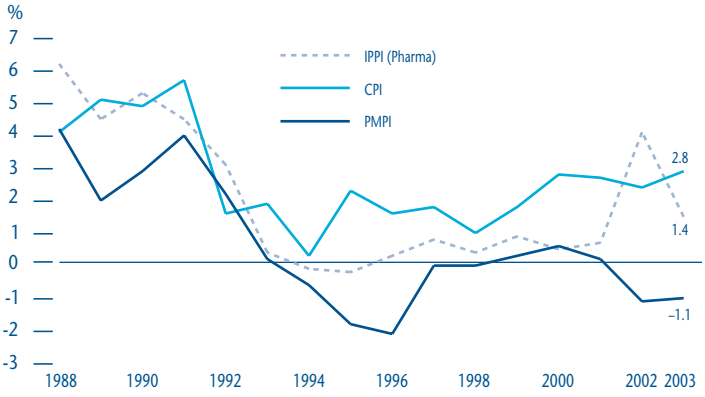
Year-Over-Year Changes in the PMPI, 1988-2003



Source: PMPRB

FIGURE 9

Year-over-Year Changes in the PMPI, IPPI (Pharma) and CPI, 1988-2003



Sources: PMPRB and Statistics Canada

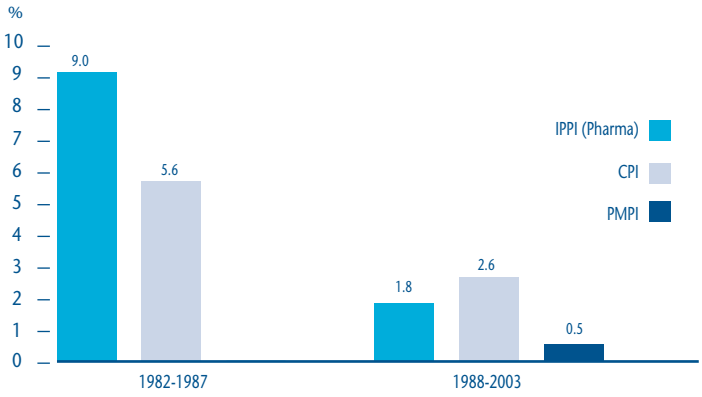
10 See the PMPRB's *A Description of the Laspeyres Methodology Used to Construct the Patented Medicine Price Index (PMPI)*, March 1997, revised June 2000, for a detailed explanation of the PMPI. Also see *A Description of the Major Price Indexes for Pharmaceuticals*, produced by Statistics Canada and the PMPRB, January 2001. The PMPI measures the overall change in the prices of existing patented drug products. It is not designed to measure the effects of changes in the quantities of drugs consumed or substitution among drugs (for example, the use of newer drugs in place of older, possibly less costly drugs) on sales. As of the 1999 Annual Report, the PMPI includes only prices of patented drugs for human use.

11 1992 is the only year in which the PMPI rose at a faster rate than the CPI. To facilitate and encourage compliance by patentees, the PMPRB's CPI-adjusted methodology uses the forecast rate of CPI inflation published by the Department of Finance. The forecast CPI inflation rate for 1992 had been 3.2%, but the actual rate was 1.5%. For a full explanation of the CPI-adjusted methodology please refer to Schedule 4 of the PMPRB's *Compendium of Guidelines, Policies and Procedures*.

12 Statistics Canada, CANSIM, Series V735319.

Figure 10

Summary of Price Trends, Average Annual Percentage Changes, 1982-1987, 1988-2003



Sources: PMPRB; Statistics Canada

That increases in the PMPI have been consistently less than CPI-inflation is not surprising. This outcome reflects a component of the PMPRB's Guidelines that requires price increases over any three-year period to be less than CPI-inflation. This requirement, applied to patented drugs on a product-by-product basis, has the effect of establishing CPI-inflation as an upper bound on PMPI growth over any period of three years or more.[13] In practice, PMPI growth never attains this upper bound because some manufacturers do not raise their prices by the full amount permitted under the PMPRB's Guidelines or even reduce their prices.

Industrial Product Price Index (IPPI)

Figure 9 seen on page 21, also depicts the year-over-year changes in the pharmaceutical component of Statistics Canada's Industrial Product Price Index [IPPI (Pharma)]. This is an index of manufacturers' prices for all pharmaceutical products manufactured in Canada, encompassing patented and non-patented drugs produced for domestic and export sale.[14] The IPPI (Pharma) rose by 1.4% in 2003, after having remained virtually unchanged from 1993 to 2001 and rising by 4.0% in 2002.[15]

As illustrated by Figure 10, a distinct break in pharmaceutical producer price trends seems to have occurred in 1987. From 1988 to 2003 the IPPI (Pharma) increased at an annual average rate of approximately 1.8%, exceeding the corresponding average PMPI increase of 0.5% but falling below the average CPI inflation rate of 2.6%. A much different situation prevailed between 1982 and 1987: the IPPI (Pharma) rose at an average annual rate of 9.0% over this period, while average CPI-inflation was 5.6%.

13 The PMPRB's Guidelines on Excessive Prices also impose a cap on year-over-year price increases equal to one-and-one-half times the rate of CPI-inflation for the year in question.

14 The IPPI (Pharma) does not encompass pharmaceutical products that are imported and sold in Canada, but does include exported drug products and non-patented drugs. According to Statistics Canada, imports accounted for about 60% of total drug sales in 2003.

15 Statistics Canada, CANSIM, Series V1576093.

Price Trends in Canada and the United States

Figure 11 compares annual changes in the pharmaceutical component of the U.S. Product Price Index [PPI (Pharma)] to annual changes in the IPPI (Pharma) before and after 1987. The U.S. PPI (Pharma) measures price increases of all pharmaceuticals at the factory-gate.[16] It is similar in construction to the Statistics Canada IPPI (Pharma).

Here again, a marked change in growth patterns occurred in 1987. Increases observed in the Canadian IPPI (Pharma) outpaced the U.S. PPI (Pharma) in all years up to 1987. From 1987 to 2003, growth in the Canadian IPPI (Pharma) was considerably less than growth in the U.S. PPI (Pharma), except in 2002. Increases in the PMPI have been less than increases in the U.S. PPI (Pharma) throughout this period.

Relationship of Canadian Prices to Foreign Prices: Past and Present

The results of the previous section show drug prices in Canada have changed over time. It is also of interest to compare Canadian prices relative to those in other countries.

In accordance with the *Patent Act* and the *Patented Medicines Regulations*, patentees must report all publicly available ex-factory prices of patented drugs in seven foreign countries: France, Germany, Italy, Sweden, Switzerland, the United Kingdom and the United States. The PMPRB uses this foreign price information:

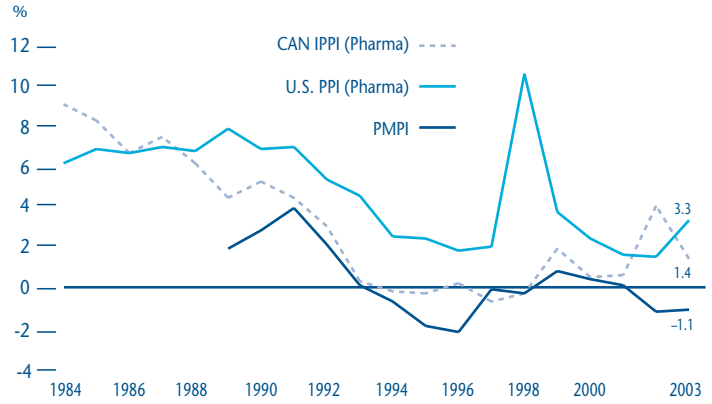
- to conduct the International Price Comparison (IPC) tests specified in the Guidelines; and
- to compare drug prices in Canada with other countries.

Figure 12 shows the relationship between Canadian prices and the corresponding median price among the seven comparator countries over the period 1987 to 2003.[17] Canadian prices were on average 23% higher than the median international price in 1987. This ratio declined and remained relatively stable at levels 5% to 12% below parity from 1994 to 2001, with the ratio rising to 1.01 in 2002. In 2003 the ratio was again below parity, with Canadian patented drug prices being on average about 95% of the corresponding median international price.

In the 2002 Annual Report, we reported that the PMPRB would investigate the factors which might explain the change in the relationship of Canadian to foreign prices for patented drugs.

Figure 11

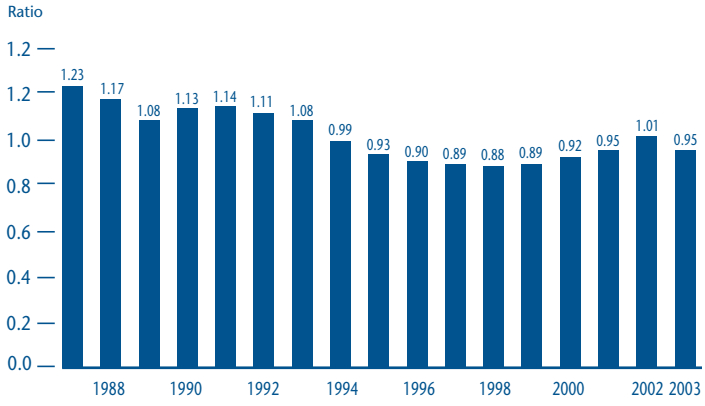
Year-over-Year Changes in Pharmaceutical Price Indices, Canada and the U.S.



Sources: PMPRB; Statistics Canada; U.S. Bureau of Labor Statistics

Figure 12

Ratio of Canadian Prices of Patented Drugs to Median International Prices, 1987-2003



Source: PMPRB

16 U.S. Bureau of Labor Statistics, Producer Price Index - Commodities, Series ID: Wpu063.

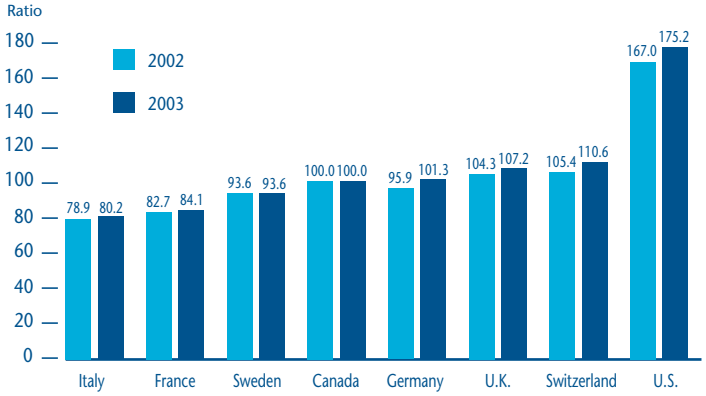
17 The methodology used by the PMPRB in conducting foreign price comparisons can be found in the *Compendium of Guidelines, Policies and Procedures* and in two papers published with the *Road Map for the Next Decade* in 1998 entitled *Trends in Patented Drug Prices* and *Verification of Foreign Patented Drug Prices*.

The statistic presented in Figure 12 is a revenue-weighted average of the ratio of the Canadian price to the median international price for each drug product reported in each year. A key step in this calculation is the conversion of foreign prices in original currencies to their Canadian-dollar equivalents.[18] Changes over time in the average ratios can thus reflect:

- trends in Canadian prices;
- trends in international prices;
- exchange rate movements;
- changes in the set of drug products covered (as new patented drugs are introduced to Canada and older drugs go off patent); and
- shifts in revenue shares among drug products.

FIGURE 13

Average Foreign to Canadian Price Ratios, Patented Drug Products



Source: PMPRB

Exchange rate movements are the leading source of year-to-year fluctuations of the average ratios. The pronounced increase in the average ratios between 2001 and 2002 was due in roughly equal measure to the appreciation of the Canadian dollar against key foreign currencies and short-term movements in foreign prices. The increase disappears when the 2002 ratio is recalculated holding exchange rates and foreign prices at their 2001 values. Similar experiments involving Canadian prices, expenditure weights and the set of drugs used in calculating the ratio show that these factors had no role in causing the increase.

Figure 13 shows the relationship between Canadian prices for patented drug products and prices in each of the seven comparator countries. In 1987 Canadian prices were, on average below U.S. prices, but above those in all other countries. By the mid-1990s the situation had changed dramatically, with Canadian prices now in the mid-range of the six European countries. This situation still prevailed in 2003, with prices of patented drugs in Canada being on average somewhat less than prices in the U.K, Germany and Switzerland, but greater than prices in France, Italy and Sweden. As in previous years, U.S. prices appear to be substantially higher than prices in both Europe and Canada.[19]

18 The PMPRB performs all currency conversions for a given period using a simple average of spot exchange rates recorded in the preceding 36 months. This approach has a smoothing effect, limiting the influence of transitory exchange rate adjustments on Canadian-to-foreign price comparisons. It also has the property of phasing-in the effects of long-term exchange rate movements. Because of this, a long-term appreciation or depreciation of the Canadian dollar may continue to produce adjustments in Canadian-to-foreign price ratios up to three years after the exchange rate shift has taken place.

19 The pharmaceutical industry in the U.S. has argued that the publicly available prices in that country do not reflect actual prices because of confidential discounts and rebates. Effective January 2000, and following public consultation, the PMPRB began including prices listed in the U.S. Federal Supply Schedule (FSS) in calculating the average U.S. price of patented drugs. The FSS prices are negotiated between manufacturers and the U.S. Department of Veterans Affairs. They are typically less than other publicly available U.S. prices reported to the PMPRB by manufacturers.

Expenditures on Drugs at the Retail Level

Despite the moderating influence of prices, total retail spending on drugs by Canadians has grown rapidly in recent years. The Canadian Institute for Health Information (CIHI) estimates retail spending grew by 10.4% in 2001 to $16.7 billion and forecasts growth of 8.8% in 2002 to $18.1 billion and 8.1% in 2003 to $19.6 billion.[20]

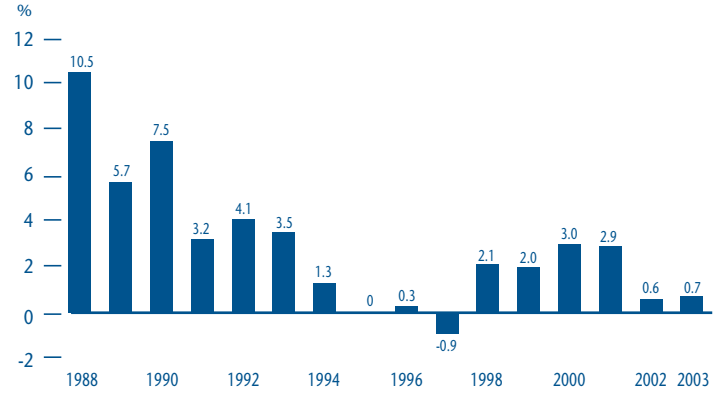
Retail spending on drugs made up 15.7% of total health spending in Canada in 2001, and is forecast to increase to 16.0% in 2002 and to 16.2% in 2003. CIHI also reports that prescribed drugs account for an increasing share of total retail drug spending, rising from 70.3% in 1990 to a forecast 81.6% in 2003.

Consumers often ask why changes in total drug expenditures usually exceed corresponding changes in drug prices.[21] One factor is differences in relevant price concepts. While the PMPRB reports average changes in prices at the manufacturers' level, total drug expenditures reflect changes in the quantity of drugs purchased and prices at the retail level. These prices include wholesale and retail mark-ups, as well as pharmacists' professional fees. Statistics Canada measures changes in retail prices of prescription drugs with the Consumer Price Index for prescribed medicines, CPI (Rx). Figure 14 shows that prices of prescription medicines at the retail level have risen in every year since 1997, registering year-over-year growth of 0.7% in 2003.[22]

Even after accounting for growth in retail prices, most of the increase in spending on drugs is left to be explained. There are several other factors, mostly related to changes in the volume and composition of drug utilization that have caused expenditures to increase well beyond the small changes in drug prices described above. These are outlined in Figure 15. The control of one factor (e.g., drug prices at the factory or retail level) does not guarantee control of total expenditures. Even if drug prices were constant (or declined, as have patented drug prices on the whole), changes in other factors (e.g., volumes of drug products consumed) could easily produce large increases in total drug expenditures. Studies conducted by the PMPRB of provincial drug plans have suggested that increased utilization of existing and new drugs accounts for most of the recent growth in expenditures.[23]

Figure 14

Year-over-Year Changes in the CPI (Rx) Index, 1988-2003



Source: Statistics Canada

20 Canadian Institute for Health Information (CIHI), *National Health Expenditure Trends, 1975-2003*. CIHI's estimates have been assembled from several data sources: Statistics Canada's annual Survey of Household Spending (for private out-of-pocket expenditure on prescribed drugs), provincial and federal public accounts (for public drug expenditure), data provided by the Canadian Life and Health Insurance Association (for drug benefits paid by private insurers) and information provided by the market research firm A.C.Nielson (Canada) (for expenditure on over-the-counter drugs). Additional information about the source report and about CIHI are available from its website at www.cihi.ca.

21 In its study, *Analysis of Drug Claim Costs 1997-2001*, Green Shield Canada found that while drug costs for the average claim rose at an average annual rate of 7.4%, drug prices decreased on average by 0.2% annually over the same period.

22 Statistics Canada, CANSIM, Series V737546.

23 PMPRB, *Provincial Drug Plan Overview Report: Pharmaceutical Trends, 1995-96 -1999-00*, September 2001.

Figure 15

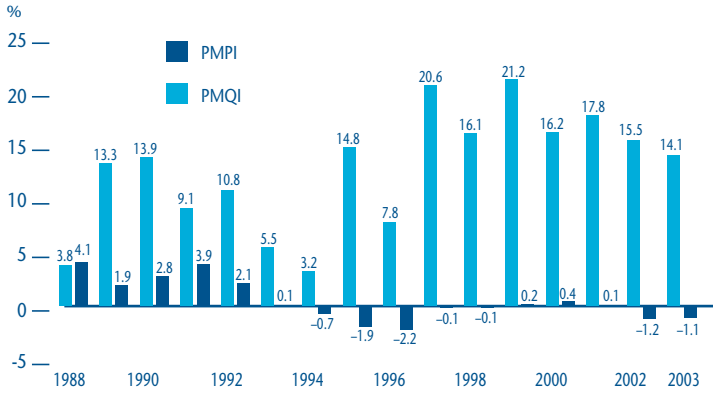
Factors Affecting Total Drug Expenditures

- changes in the total population
- changes in the demographics and health status of the population (i.e. towards those with increased medication needs)
- changes in the unit prices of drugs (both patented and non-patented)
- changes in retail and wholesale mark-ups and professional fees
- changes in the prescribing habits of physicians (i.e. from older, less expensive medications to newer, relatively more expensive medications to treat the same underlying diagnosis)
- changes in utilization of drugs on a per patient basis (i.e. more medications per patient per year)
- trends towards using drug therapy instead of other treatments (e.g. as alternatives to surgery in some cases)
- the appearance of new diseases requiring pharmaceutical therapy
- the introduction of new drugs to treat conditions for which effective pharmaceutical therapies previously did not exist
- the introduction of new drugs embodying appreciable improvements over existing pharmaceutical therapies

Source: PMPRB

Figure 16

Year-over-Year Changes in the PMPI and the PMQI, 1988-2003



Source: PMPRB

Trends in Quantities of Patented Drug Products Sold in Canada

The price and sales data used to calculate the PMPI also allow the PMPRB to examine trends in the quantities of patented drugs sold in Canada. The PMPRB maintains the Patented Medicine Quantity Index (PMQI) for this purpose.[24] Figure 16 displays annual average rates of utilization growth as measured by the PMQI. These results show that volumes of patented drugs sold have consistently risen much faster than prices. From 1988 to 2003 the average annual increase in quantities of patented drugs sold was approximately 12.7%. Growth in 2003 amounted to 14.1% of the previous year's volumes.

Trends by Major Therapeutic Group (ATC class)

For purposes of price review, the PMPRB classifies all drugs sold in Canada according to the World Health Organization's (WHO) Anatomical Therapeutic Chemical (ATC) classification system. Table 5 breaks out the sales of patented drugs in Canada in 2003 according to major therapeutic groups.[25]

24 Like the PMPI, the PMQI is calculated using a chained Laspeyres index formula, with ratios of quantities in successive periods replacing the price ratios of the PMPI. Here again, the aggregate value of the index is obtained as a revenue-weighted average of ratios at the level of individual products. The PMQI covers only patented drugs, and may not accurately represent utilization trends in the overall pharmaceutical market.

25 It should be noted that shares of sales by ATC group for all drugs in Canada may differ from shares obtained for patented drugs.

The last column in Table 5 gives the contribution of each therapeutic class to overall sales growth (calculated as sales growth within the class weighted by its share of total expenditures). By this measure the leading drivers of growth were drugs related to:

- the nervous system (such as drugs treating depression);
- the cardiovascular system (such as lipid-reducing agents and drugs treating hypertension);
- blood and blood-forming organs; and
- the alimentary tract and metabolism (such as drugs treating ulcers).

These four classes accounted for almost two-thirds of the growth in manufacturers' sales between 2002 and 2003.

Table 5 Manufacturers' Sales of Patented Drugs for Human Use by Major Therapeutic Group, 2003

ATC Main Group	Sales	Share of Total	Growth from 2002		Contribution to Total Expenditure Growth
	$M	%	$M	%	%
A: Alimentary tract and Metabolism	1355.8	13.4	164.9	13.8	12.3
B: Blood and Blood Forming Organs	604.6	6.0	166.0	37.8	12.4
C: Cardiovascular System	2544.8	25.2	210.4	9.0	15.7
D: Dermatologicals	75.3	0.75	17.0	29.2	1.3
G: Genito-urinary System and Sex Hormones	315.7	3.1	51.6	19.5	3.8
H: Systemic Hormonal Preparations, Excluding Sex Hormones	90.1	0.89	13.9	18.2	1.0
J: General Antiinfectives for Systemic use; and P: Antiparasitic Products [26]	1082.5	10.7	112.6	11.6	8.4
L: Antineoplastics and Immunomodulating Agents	835.2	8.3	130.5	18.5	9.7
M: Musculo-skeletal System	703.7	7.0	87.2	14.1	6.5
N: Nervous System	1734.7	17.2	314.8	21.7	23.5
R: Respiratory System	617.9	6.1	58.8	10.5	4.4
S: Sensory Organs	112.3	1.11	11.4	11.3	0.9
V: Various	37.3	0.37	1.5	4.2	0.1
Total	**10109.9**	**100.0***	**1340.6**	**100.0***	**100.0***

Source: PMPRB

* The percentage may not equal 100 due to rounding

26 These groups have been combined for reasons of confidentiality.

NATIONAL PRESCRIPTION DRUG UTILIZATION INFORMATION SYSTEM

In September 2001, Federal/Provincial/Territorial Ministers of Health announced the establishment of the National Prescription Drug Utilization Information System (NPDUIS) based on a Business Case prepared by the PMPRB and the Canadian Institute for Health Information (CIHI). The purpose of the NPDUIS is to provide critical analyses of price, utilization and cost trends so that Canada's health system has more comprehensive, accurate information on how prescription drugs are being used and on sources of cost increases.

The responsibilities of the PMPRB in this undertaking have been established by the Minister of Health pursuant to Section 90 of the *Patent Act*. In the Minister's letter of October 2002, the Minister has requested that the PMPRB "inquire into trends in pharmaceutical prices, expenditures and cost drivers, and such other analytical studies, as described in the Business Case, and endorsed by the Steering Committee." The provisions of this letter are established through a Memorandum of Understanding between Health Canada and the PMPRB covering the period from April 1, 2002 until March 31, 2005.

The NPDUIS initiative has two major elements:

- the development and implementation of a prescription claims level drug database capable of incorporating program data from publicly-funded drug plans; and
- the production of analytical reports relying on information in this database.

CIHI is responsible for the first of these elements, while as requested by the Minister of Health, the PMPRB is principally responsible for the second.

A steering committee comprising representatives of public drug plans and Health Canada advises CIHI and the PMPRB on the development of the NPDUIS databases and analyses. The steering committee met three times in 2003, to discuss technical issues on database development and direction for analytical studies.

As a result of the steering committee meetings, the PMPRB confirmed the importance to the public plans of the items on its NPDUIS research agenda. During the June 2003 meeting, public drug plan officials agreed to expedite the PMPRB's work by sharing their aggregated drug expenditures data. As of November 2003, nine public drug plans had shared data with the PMPRB.

The projects that have been approved for 2004-2005 are listed below along with a brief description. The first two projects follow from earlier analytical cost-driver work conducted by the PMPRB in relation to the structure and performance of provincial pharmaceutical reimbursement programs.

Non-Insured Health Benefits Cost Drivers study

This study – completed in spring 2004 – examines spending on drugs within the Non-Insured Health Benefits Program of the First Nations and Inuit Health Branch of Health Canada over the period from 1999-2000 to 2001-2002. The study provides decision-makers with information on drug expenditure that will help in dealing with the challenge of providing programs and services in an environment of fixed limited resourcing levels.

Pharmaceutical Trends Overview Report

Work commenced in spring 2004 on the Pharmaceuticals Trends Overview Report which will examine trends in provincial drug expenditures; expenditures by therapeutic class; disaggregated expenditure growth into its component factors; costs per beneficiary; and costs of drugs per defined daily dose.

Budget Impact Analysis Methodology

This project will develop methodological guidelines for calculating the net financial impact of a provincial drug plan listing a new drug as a benefit. The PMPRB is partnering on this project with the Canadian Coordinating Office for Health Technology Assessment (CCOHTA) due to the overlap of this project with CCOHTA's Common Drug Review initiative. Input from interested parties will be sought.

Program Expenditure Forecasting Methodology

In the last decade growth in public drug program plan expenditure has been rapid and volatile. This combination makes budgeting for drug plan expenditures a challenge. The goal of this project is to develop best practices in forecasting drug program expenditure.

Input and methodological advice for this project will be sought from interested stakeholders and outside experts.

Therapeutic Cost Index

The PMPRB will develop an index that calculates the average increase in costs per defined daily dose (DDD) that reflects that patients do switch from one drug to another. These results will be calculated in aggregate for all drugs and by leading therapeutic classes using the data supplied to the PMPRB by the participating public drug plans.

Methodological advice for this project will be sought from outside experts.

For current information on the PMPRB's and CIHI's involvement in NPDUIS, please visit their respective websites – at www.pmprb-cepmb.gc.ca and www.cihi.ca.

ANALYSIS OF RESEARCH-AND-DEVELOPMENT EXPENDITURE

With the adoption of the 1987 amendments to the Patent Act (Act), Canada's Research Based Pharmaceutical Companies (Rx&D) made a public commitment that brand name manufacturers would increase their annual research-and-development (R&D) expenditure to 10% of sales revenue by 1996.[27]

Under the Act, the PMPRB monitors and reports on R&D spending, but has no regulatory authority over the amount or type of research spending by patentees. This chapter provides key statistics on the current state of pharmaceutical research investment in Canada.

Data Sources

The results presented here were derived from data patentees have submitted to the PMPRB. The Act requires each patentee to report its revenue from sales of drugs (including revenue from sales of non-patented drugs and from licensing agreements) and R&D expenditure in Canada related to medicines. Companies without sales of patented medicines need not report on R&D expenditure and, as new patents are granted and others expire, the set of companies required to file R&D data changes from year to year.

The *Patented Medicines Regulations, 1994*, require that the R&D data submitted to the PMPRB be accompanied by a certificate stating that the submitted information is "true and correct". The Board does not audit submissions, but it does review submitted data for anomalies and inconsistencies, seeking corrections or clarifications from patentees where these are detected. To confirm that Board Staff has correctly interpreted submitted data, each patentee is given the opportunity to review and confirm the accuracy of its own R&D-to-sales ratio before publication of this report.

27 As published in the Regulatory Impact Assessment Statement (RIAS) of the *Patented Medicines Regulations, 1988*, published in the Canada Gazette Part II, Vol. 122, No. 20 – SOR/DORS/88-474.

A total of 83 companies selling human and veterinary drug products filed reports on their R&D expenditure for 2003. Of these, 35 were members of Rx&D.

Failure to File

Under ss. 89(3) of the Act, the PMPRB is to report the identity of patentees who fail to file information as per section 88 of the Act. In 2003 one company, Draxis Health Inc., reported sales of a patented medicine but failed to file information on its R&D expenditure as per ss. 88 (1)(c) of the Act. This matter is currently under investigation.

In its 2002 Annual Report, the PMPRB reported that it was investigating the failure of Pharmascience Inc. to report information showing its expenditures on pharmaceutical R&D. This matter has now been concluded with the reporting of R&D expenditure information by Pharmascience Inc. for 2002 and 2003 as reflected in Annex 3 of this report.

Results for 2002 presented in this section incorporate data submitted by two other companies (Les Laboratories and Rare Disease Therapeutics Inc.) which were not received in time for inclusion in the *PMPRB 2002 Annual Report*.

Sales Revenue

For reporting purposes, sales revenue is defined to include all revenue from Canadian sales of medicines and from licensing agreements.[28]

As shown in Table 6, patentees reported total sales revenue of $13.6 billion from Canadian sales of drugs in 2003, up 12.7% over 2002. Less than 1% of reported sales revenue was generated by licensing agreements. Sales revenue reported by Rx&D members totalled $10.9 billion, accounting for 80.1% of the total.

R&D Expenditure

Pursuant to Section 6 of the Regulations, patentees are required to report R&D expenditure that would have been eligible for an Investment Tax Credit for scientific research and experimental development under the provisions of the *Income Tax Act* in effect on December 1, 1987. By this definition, R&D expenditure may include current expenditure, capital equipment costs and allowable depreciation expenses. Market research, sales promotions, quality control or routine testing of materials, devices or products and routine data collection are among the types of expenditure not eligible for an Investment Tax Credit, and are not to be included in patentees' filings.

As shown in Table 6, total 2003 R&D expenditure reported by patentees was $1,192 million, 0.5% less than in 2002. Rx&D members reported R&D expenditure of $993 million in 2003, accounting for 83.2% of all reported expenditure.

28 Sales of drugs for both human and veterinary use are included for the purpose of this section of the report.

Table 6 Total R&D Expenditures and R&D-to-Sales Ratios of Reporting Companies, 1988-2003

Year	Companies Reporting	Total R&D Expenditure[1] ($M)	Change from Previous Year (%)	Total Sales Revenue[2] ($M)	Change from Previous Year (%)	R&D-to-Sales Ratio All Patentees[3] (%)	R&D-to-Sales Ratio Rx&D Patentees[4] (%)
2003	83	1192.4	-0.5	13617.2	12.7	8.8	9.1
2002[5]	79	1198.7	13.0	12081.2	12.5	9.9	10.0
2001	74	1060.1	12.6	10732.1	15.3	9.9	10.6
2000	79	941.8	5.3	9309.6	12.0	10.1	10.6
1999	78	894.6	12.0	8315.5	19.2	10.8	11.3
1998	74	798.9	10.2	6975.2	10.9	11.5	12.7
1997	75	725.1	9.0	6288.4	7.4	11.5	12.9
1996	72	665.3	6.4	5857.4	9.9	11.4	12.3
1995	71	625.5	11.5	5330.2	7.5	11.7	12.5
1994	73	561.1	11.4	4957.4	4.4	11.3	11.6
1993	70	503.5	22.1	4747.6	14.0	10.6	10.7
1992	71	412.4	9.6	4164.4	6.9	9.9	9.8
1991	65	376.4	23.2	3894.8	18.1	9.7	9.6
1990	65	305.5	24.8	3298.8	11.0	9.3	9.2
1989	66	244.8	47.4	2973.0	9.4	8.2	8.1
1988	66	165.7	-	2718.0	-	6.1	6.5

Source: PMPRB

1 Total R&D expenditure includes Scientific Research and Development expenses – both capital and non-capital – which qualify for an investment tax credit as set out in the *Income Tax Act* and *Income Tax Regulations* as they read on December 1, 1987.

2 Total sales revenue include sales of patented and non-patented drugs for both human and veterinary use.

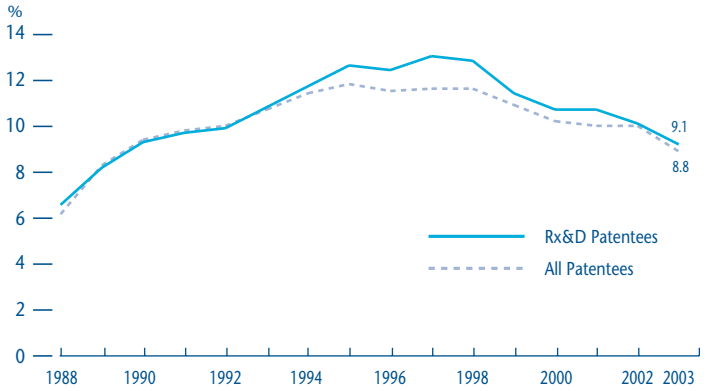
3 The R&D-to-sales ratios presented in the above table include research expenditure funded by government grants. If the government-funded component is excluded the ratios for all patentees and for the members of Rx&D in 2003 are 8.7% and 9.1%, respectively.

4 In the past, Rx&D has reported that its members have achieved a higher R&D-to-sales ratio than reported by the PMPRB. Recall, however, that the *Patent Act* requires only companies with active Canadian patents pertaining to a medicine sold in Canada to report on R&D expenditure. This means that some Rx&D members do not report their R&D expenditure - for example, biotechnology companies engaged in research but without sales of a patented product in Canada.

5 Revised since the release of the *PMPRB 2002 Annual Report*.

Figure 17

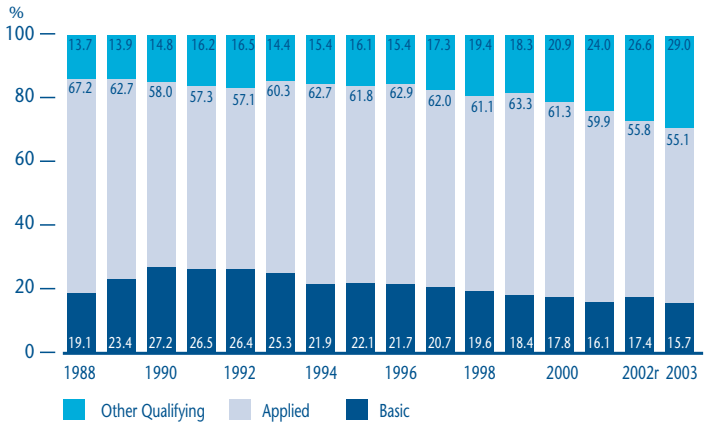
R&D-to-Sales Ratio, Pharmaceutical Patentees, 1988-2003



Source: PMPRB

Figure 18

Current R&D Expenditures by Type of Research, 1988-2003



Source: PMPRB

R: Revised since the release of the *PMPRB 2002 Annual Report*.

R&D-to-Sales Ratios

The ratio of R&D expenditure to sales revenue for the patented pharmaceutical industry was 8.8% in 2003. The ratio for members of Rx&D was 9.1%, down from 10.0% in the previous year.

Figure 17 shows that R&D-to-sales ratios for all patentees and for Rx&D members have declined in recent years, after rising from 1988 to the mid-1990s. Whether taken over all patentees or restricted to Rx&D members, R&D-to-sales ratios in 2003 were the lowest seen since 1989.

Table 8, in Annex 3 on page 50, provides details on the range of R&D-to-sales ratios. Of the 83 companies reporting in 2003, 63 had R&D-to-sales ratios of 10% or less in 2003. These companies accounted for 70.2% of total sales revenue.

Table 9, in Annex 3 on page 50, lists all reporting patentees and their R&D-to-sales ratios.

Current Expenditure by Type of Expenditure

Current R&D expenditure was $1,143 million in 2003, accounting for 95.8% of total R&D expenditure.[29] Capital equipment costs and allowable depreciation expenses made up 2.8% and 1.5% of total R&D expenditure, respectively.

Current Expenditure by Type of Research

Table 10 in Annex 3, on page 53, gives the allocation of 2003 current expenditure on basic research, applied and other qualifying R&D. Basic research is defined as work that advances scientific knowledge without a specific application in view. Patentees reported spending $180 million on basic research, representing 15.7% of current R&D expenditure as shown in Figure 18. Spending on basic research in 2003 fell by 9.3% relative to the previous year.

29 Current R&D expenditure consists of non-capital expenses directly related to research, including (a) wages and salaries, (b) direct material, (c) contractors and sub-contractors, (d) other direct costs such as factory overhead, (e) payments to designated institutions, (f) payments to granting councils and (g) payments to other organizations. These elements are described in more detail in the *Patentees Guide to Reporting – Form 3*, available on the PMPRB website under Legislation, Regulations and Guidelines.

Applied research is directed toward some specific practical application, comprising research intended to improve manufacturing processes, pre-clinical trials and clinical trials. Patentees reported spending $630 million on applied research, representing 55.1% of current R&D expenditure. Clinical trials accounted for 77.4% of applied research expenditure.

Other qualifying research (includes drug regulation submissions, bioavailability studies and Phase IV clinical trials) accounted for the remaining 29.0% of current expenditure in 2003. Figure 19 in Annex 3, page 50, shows current expenditure on R&D by type of research from 1988 to 2003.

Current Expenditure by R&D Performer and by Source of Funds

Patentees report expenditure on research they conduct themselves (intramural) and research performed by other establishments, such as universities, hospitals and other manufacturers (extramural). Table 10 in Annex 3, on page 53, shows that slightly more than one-half (55.1%) of expenditure was intramural. Research performed by other companies on behalf of patentees rose to 22.6% of current R&D expenditure in 2003, while the combined share of universities and hospitals was 11.1%.

In 2003, as in previous years, patentees funded almost all R&D expenditure with internal company funds. (Refer to Table 11 in Annex 3, on page 53, for further details.)

Current R&D Expenditure by Location

Tables 12 and 13 in Annex 3, on page 54, show the current R&D expenditure by province. As in previous years, expenditure was heavily concentrated in Ontario and Québec, these provinces accounting for 89.2% of total expenditure.

RESEARCH AGENDA

The PMPRB's Research Agenda is developed each year as part of our annual planning process. It outlines current or upcoming projects which we are working on or will be undertaken in the near future. Initiatives that are currently, or may become, subject to public consultation are also indicated in the Research Agenda.

The National Prescription Drug Utilization Information System (NPDUIS), a partnership between the Canadian Institute for Health Information (CIHI) and the PMPRB, was launched in 2002. Under this initiative, the PMPRB has undertaken a number of research studies related to the utilization and management of pharmaceutical products. The NPDUIS research projects are reflected in the Research Agenda.

Our Research Agenda is available on our website under Publications. Updates to it are published quarterly in the PMPRB's NEWSletter.

PILOT PROJECT FOR A COMPLAINTS-DRIVEN APPROACH FOR THE REGULATION OF PATENTED DRUG PRICES FOR VETERINARY USE: NEXT STEPS

The PMPRB's regulatory jurisdiction under the *Patent Act* extends to all patented pharmaceutical products sold in Canada, including drugs for veterinary use.

Several events throughout the mid-to-late 1990's suggested that it would be appropriate for the PMPRB to modify the reporting requirements for patented veterinary drugs. Following public consultations, in 1999, the PMPRB implemented a trial complaints-driven approach for regulating the prices of patented veterinary drugs. Under the complaints-driven approach, Board Staff reviews the prices of new patented medicines only. Existing medicines are subject to review only when a substantiated complaint has been received. Patentees are expected to ensure that their prices remain within the PMPRB's Excessive Price Guidelines and to retain all price information and file it with the Board upon request.

In 2003, the Board evaluated the trial complaints-driven approach and concluded that it would be appropriate to implement it on a permanent basis. Results of this evaluation were published in the January 2004 NEWSletter.

For 2004, Board Staff is working on proposing changes to the *Patented Medicines Regulations* (Regulations) and the PMPRB's Excessive Price Guidelines to reflect the proposed new filing requirements. Consultations on these proposed changes will be done through Notice and Comment in the NEWSletter and subsequently through the formal process of the Canada Gazette. Any changes to the Regulations ultimately require the approval of the Minister of Health. During this consultation period, the procedures and Guidelines that are currently in place for veterinary drugs, the *Special Provisions for Veterinary Patentees*, remain in effect.

IT IS IMPORTANT TO NOTE THAT THE BOARD IS NOT PROPOSING TO RELINQUISH ANY OF ITS POWERS OVER THE PRICES OF PATENTED DRUGS FOR VETERINARY USE, BUT IS PROPOSING AN ADMINISTRATIVE CHANGE TO IMPROVE AND FORMALIZE THE CURRENT TRIAL COMPLAINTS-DRIVEN SYSTEM. THE BOARD RETAINS ITS FULL JURISDICTION AND REGULATORY AUTHORITY OVER PATENTED DRUG PRICES FOR VETERINARY USE, AS PER THE *PATENT ACT*.

TIMELINES REVIEW PROJECT

In its second report to the Board in November 2001, the Working Group on Price Review Issues had recommended the establishment of milestones and time frames for the price review process.[30] Building on this recommendation, on the complex questions raised by new drugs that require expert review, on the novel submissions of patentees and their requests for additional opportunities to provide more evidence and make further submissions, the PMPRB has initiated work on a Timelines Review Project.

During the past 18 months, we have focussed on a number of initiatives internally in preparation for further changes and public consultation in the future. First, we have enhanced the scientific review process involving the Human Drug Advisory Panel (HDAP). Our HDAP now meets on a quarterly basis instead of semi-annually and procedures have been adopted to allow us to report back to patentees more quickly on the outcome of the HDAP's review. Second, we have conducted an internal review of operating procedures. This review has enabled greater internal efficiencies and will help set the stage for public consultations on more rigorous timelines in the future. Third, we have been able to assign additional resources to address the backlog of ongoing investigations.

The result of these initiatives has been an increase in the number of new drugs reviewed and a significant reduction in the number of ongoing investigations.

The next stages in the review of the PMPRB's timelines will involve developing more specific time frames for the specific stages of the review process and consulting with industry and other stakeholders.

30 Report of the Working Group on Price Review Issues to the Patented Medicine Prices Review Board on the Price Review Process for New Patented Medicines, November 2000.

COMMUNICATIONS

The PMPRB's Communications Program includes the development and maintenance of the PMPRB's communications policies, plans and activities. The Secretariat manages the Communications program and is responsible for responding to public enquiries and is accountable for the management, direction, development and dissemination of all communications activities, including media relations.

We strive to integrate all of our communications planning into our annual strategic planning process and to evaluate communications as an integral component in our Strategic Plan.

An educational component underlies all of our communications planning. We undertake to raise awareness and foster an understanding of the PMPRB's mandate, role and jurisdiction.

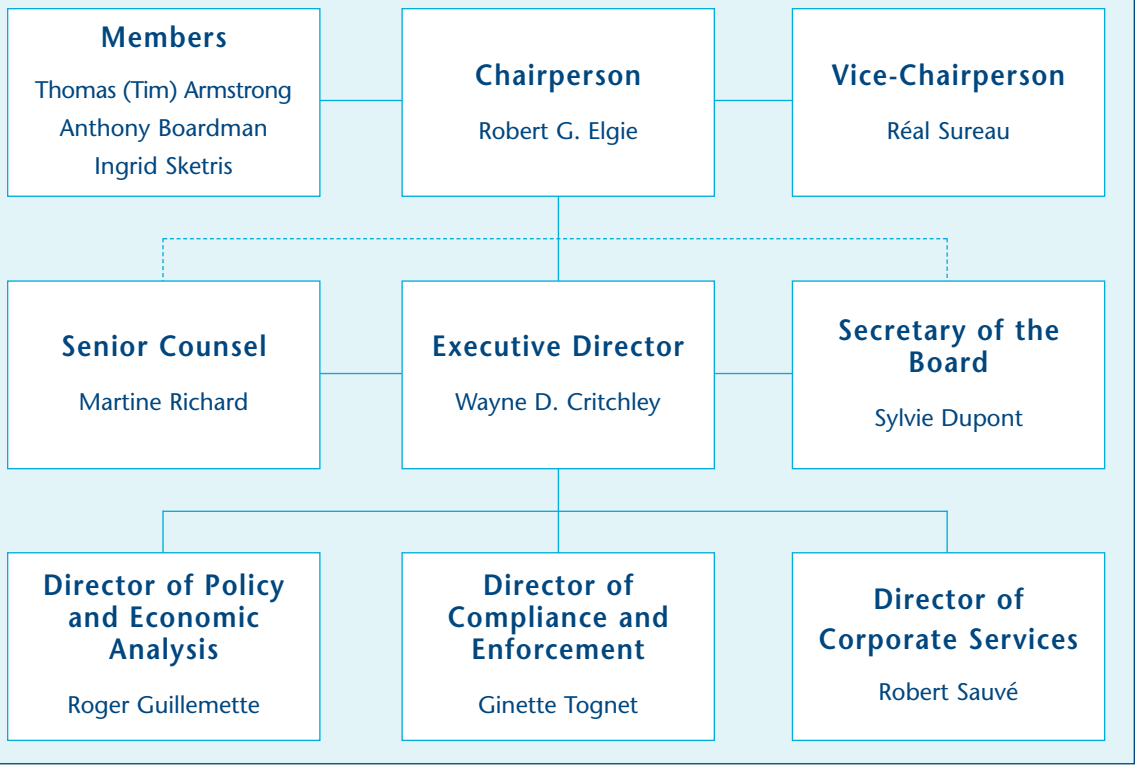
In 2003, we continued to focus on transparency. Facilitating two-way communications remained the main element of our Communications Program. Our objective is to ensure stakeholder participation through established modes of communication. We proceeded with an examination of our information exchange processes, a survey of our website users, and re-design of our website in the first half of 2004, resulting in what we hope will be a further enhanced accessibility to the PMPRB.

As we look ahead, transparency and accessibility remain the central elements in our Communications Program.

Governance

The Board consists of not more than five members who serve on a part-time basis, appointed by the Governor-in-Council, including a Chairperson and Vice-Chairperson. The Chairperson is designated under the *Patent Act* as the Chief Executive Officer of the PMPRB with the authority and responsibility to supervise and direct its work. The Executive Director manages the work of the Staff. Senior Staff consists of the Executive Director, the Director of Compliance and Enforcement, the Director of Policy and Economic Analysis, the Director of Corporate Services, the Secretary of the Board and Senior Counsel.

Members of the Board and Senior Staff



Members' Biographies

Chairperson: Robert G. Elgie
C.M., LL.B., M.D., F.R.C.S. (C), LL.D. (hon.)

Dr. Elgie was appointed Member and Chairperson of the Board in March 1995 and re-appointed in March 2000 to March 2005.

Dr. Elgie, a lawyer and neurosurgeon, Fellow of the Royal College of Surgeons (Neurosurgery), was the founder and first Director of Dalhousie University's Health Law Institute from 1991 to 1996. He was also the part-time Chair of the Workers' Compensation Board of Nova Scotia from 1992 to 1996. Dr. Elgie has taught at the Medical Schools of Queen's University and the University of Toronto, and has held several positions with the Scarborough General Hospital, including Chief of Medical Staff. In 1977, he was elected to the Ontario Legislative Assembly and subsequently served in several Cabinet positions. He resigned from the Ontario Legislature in September 1985 to become Chair of the Workers' Compensation Board of Ontario where he served until 1991. In October 2000, Dr. Elgie was appointed to the Ontario Press Council.

In May 2001, Dr. Elgie was awarded an honorary degree by Dalhousie University: Doctor of Laws, honoris causa, in recognition of his outstanding personal achievements. In January 2003, Dr. Elgie was appointed Member of the Order of Canada.

Vice-Chairperson: Réal Sureau F.C.A.

Mr. Sureau was appointed Member and Vice-Chairperson of the Board in October 1995 and re-appointed in October 2000 to October 2005.

He is a graduate of accountancy courses at Queen's University and McGill University and became a chartered accountant in 1963.

From 1957 until 1973 Mr. Sureau practiced public accounting and auditing in a regional firm. He then became Vice-President, Finance of Forex Inc. engaged in sawmill activities from 1973 to 1982. He subsequently moved as chief financial officer of the Canam Manac Group Inc., a North American leader in the manufacturing of steel trusses and semi-trailers until 1992. He then pursued his career as a business consultant and a corporate director.

Mr. Sureau was a director and member of several committees of the Québec Order of Chartered Accountants for which he served as Chairperson in 1995-1996. He was granted an honorary Fellowship in 1986.

Mr. Sureau is President of Sureau Management Limited. Since 1982, he has served on several boards of directors of reporting issuers and other private organizations, including Gaz Métro Inc. where he sits as a director, member of the committee on corporate governance, the committee on pension funds and chairs their audit committee since 1995.

Members

Thomas (Tim) Armstrong Q.C., O. Ont.

Mr. Armstrong was appointed Member of the Board on October 3, 2002 to October 2007.

A lawyer, Mr. Armstrong has had a long career as a provincial public servant. He served as Chair of the Ontario Labour Relations Board (1974-1976), Deputy Minister of Labour (1976-1986), Agent General for Ontario in Tokyo (1986-1990), and Deputy Minister of Industry, Trade and Technology (1991-1992). He was advisor to the Premier of Ontario on Economic Development from 1992 to 1995. He has been Chief Representative for Canada to the Japan Bank for International Cooperation since 1996 and also serves as arbitrator and mediator in alternative dispute resolutions (ADR), specializing in labour relations.

Mr. Armstrong was awarded the Order of Ontario in 1995 in recognition of his contribution to public service in Ontario.

Anthony Boardman B.A., Ph.D.

Dr. Boardman was appointed Member of the Board in January 1999 to January 2004.

Dr. Boardman is the Van Dusen Professor of Business Administration in the Strategy and Business Economics Division of the Sauder School of Business at the University of British Columbia (UBC). He graduated from the University of Kent at Canterbury, England, (B.A., 1970) and Carnegie-Mellon University (Ph.D., 1975). Prior to taking up his position at UBC he was a professor at the Wharton School, University of Pennsylvania.

Dr. Boardman's current research interests include privatization, cost-benefit analysis and strategic management. Dr. Boardman has been a consultant to many private and public organizations including Vodafone, Stora Enzo, PricewaterhouseCoopers, the Treasury of New Zealand and all levels of government in Canada. He has taught executive programs in Finland, China, Australia and elsewhere, and has won a number of teaching awards. As a member of the MBA Core Team at UBC, he won the Alan Blizzard award. Between 1995 and 2001, Dr. Boardman was a member of the Pharmacoeconomic Initiative Scientific Committee which made recommendations to B.C. Pharmacare on the cost-effectiveness of new drugs.

During his career, Dr. Boardman has published many articles in leading academic journals. Currently, he is working on the third edition of Cost-Benefit Analysis: Concepts and Practice.

Ingrid S. Sketris BSc(Phm), Pharm.D., MPA(HSA)

Dr. Sketris was appointed Member of the Board in May 1999 to May 2004.

Dr. Sketris is a Professor at the College of Pharmacy and School of Health Services Administration and an Associate Professor of the Department of Community Health and Epidemiology, Dalhousie University. She is a consultant to the pharmacy department of the Queen Elizabeth II Health Sciences Centre, Halifax. Since 2000, Dr. Sketris holds a Chair in health services and nursing from the Canadian Health Services Research Foundation/Canadian Institutes of Health Research (cosponsored by the Nova Scotia Health Research Foundation).

She is a graduate of the University of Toronto (BSc(Phm), 1977), University of Minnesota (Pharm.D,1979), University of Tennessee Center for the Health Sciences (Residency in Clinical Toxicology/Pharmacy Practice, 1980) and Dalhousie University (MPA(HSA) 1989).

Dr. Sketris is a fellow of the Canadian Society of Hospital Pharmacists and the American College of Clinical Pharmacy. She is currently on the Editorial Boards of the Canadian Journal of Clinical Pharmacology and the Clinical Therapeutics. She was a member of the scientific advisory panel of the Canadian Coordinating Office for Health Technology Assessment (CCOHTA) from 1996-1998. Dr. Sketris' research interests include examining the impact of changes in Pharmacare policy and the use of drugs and health services particularly related to the population of Nova Scotia.

Dr. Sketris currently sits as the PMPRB representative on a committee of the Canadian Institute for Health Information (CIHI) examining the use of the Anatomical Therapeutic Chemical (ATC) Classification System and Defined Daily Dose (DDD) for analytical purposes.

Dr. Sketris has numerous publications in the area of transplantation therapeutics and pharmacoepidemiology.

BUDGET

The PMPRB operated with a budget of $5,212,000 in 2003-2004 and an approved staff level of 44 employees. The budget included $424,000 for the Therapeutic Access Strategy[31] (TAS) initiative and $832,000 for the National Prescription Drug Utilization Information System (NPDUIS)[32] project.

Table 7 Financial Performance

	Actual Spending 2002-2003 ($ thousands)	Forecast Spending 2003-2004 ($ thousands)
Total PMPRB	4,231.3	5,212.0
Full Time Equivalents	36.0	44.0

Additional information on the PMPRB budget is available on our website under Reports to Parliament.

31 The Therapeutic Access Strategy is a Health Canada initiative aimed at helping Canadians maintain and improve their health by ensuring that human drugs and other therapeutic products are safe, of high quality, therapeutically effective, appropriately used and accessible in a timely and cost-effective fashion. The PMPRB received funding through the TAS for its timelines initiative. For more information on this initiative, refer to page 35.

32 For more information on the National Prescription Drug Utilization Information System (NPDUIS), refer to page 28.

PUBLICATIONS

We seek to inform our stakeholders regularly through our publications. Some of these publications, such as the Annual Report and the NEWSletter, are published at regular intervals throughout the year while others are released in response to program and corporate requirements.

To obtain our publications, please call us at 1 877 861-2350 or (613) 952-7360, or access them on our website.

Publications	Release Date
Annual Report	June
Articles	
- *Price Increases – Monitoring Compliance with the Guidelines*	October
- *PMPRB Price Guidelines – 2004 Price Increases*	January 2004
CPI-Adjustment Factors	April
Hearings	
- In the matter of Hoescht Marion Roussel Canada (HMRC) and the medicine Nicoderm	April 1999 (ongoing)
- In the matter of Schering Canada Inc. and the medicine Remicade	December 2002 – April 2003
- In the matter of Sanofi-Synthelabo Canada Inc. and the medicine Fasturtec	May 2004
NEWSletter	Quarterly
Notice and Comment	
- Schedule 7 of the Compendium of Guidelines, Policies and Procedures – *Comparable Dosage Forms*	January
- Proposed Advance Ruling Certificate with respect to the price of Viread	April 2004
Patented Medicines	
- Reported to the PMPRB in 2003 (including the review status for each drug)	Monthly
- Reports on New Patented Drugs:	
1. Xatral	January
2. Pulmozyme	April
3. Gleevec	July
4. Pariet	
5. Aranesp	October
6. Xigris	January 2004
7. Crestor	April 2004
8. Bextra	
Research Agenda	January
Speech Series	
- *Current Issues in Price Controls for Patented Medicines*	*March*
- *The Patented Medicine Prices Review Board, its Role and Responsibilities*	*September*
- *Patented Medicines and Pricing Issues: Latest Trends and Developments*	*March 2004*
Study Series – F/P/T	
- Top Selling Non-Patented Single Source Drug Products: International Price Comparison, 1998-1999	May
- A Study of the Prices of the Top Selling Multiple Source Medicines in Canada	June
Summary of Board Meetings	Quarterly
Voluntary Compliance Undertakings	
- Aromasin	April
- Dostinex	October
- One-Alpha	May 2004

Glossary

This glossary is included for the convenience of the reader. For more detailed information and definitions please refer to the *Patent Act*, the *Patented Medicines Regulations*, the PMPRB Compendium of Guidelines, Policies and Procedures and the Food and Drug Regulations, or contact the PMPRB.

Active Ingredient:
Chemical or biological substance responsible for the claimed pharmacologic effect of a drug product. (Ingrédient actif)

Advance Ruling Certificate (ARC):
A non-binding certificate may be issued pursuant to subsection 98(4) of the *Patent Act* at the request of a patentee when the Board is satisfied that the price or proposed price of the medicine would not exceed the maximum non-excessive price under the Board's Guidelines. (Certificat de décision préalable)

ATC:
Anatomical Therapeutic Chemical [ATC] classification system, developed and maintained by the World Health Organization (WHO) Collaborating Centre for Drug Statistics Methodology, divides drugs into different groups according to their site of action and therapeutic and chemical characteristics. This system is used by the PMPRB as a guide for selecting comparable medicines for purposes of price review. (ATC)

Dedication of Patent:
A practice whereby a patentee notifies the Commissioner of Patents that it has surrendered its rights and entitlements flowing from the patent for the benefit of the public to use and enjoy. (Cession d'un brevet)

NB: As of January 30, 1995, the Board does not recognize dedication of patent as a means to remove the medicine from its jurisdiction. (See PMPRB Bulletin 17, page 3.)

Drug Identification Number (DIN):
A registration number that the Health Protection Branch of Health Canada assigns to each prescription and non-prescription drug product marketed under the *Food and Drugs Regulations*. The DIN is assigned using information in the following areas: manufacturer of the product; active ingredient(s); strength of active ingredient(s); pharmaceutical dosage form; brand/trade name; and route of administration. (Numéro d'identification de drogue)

Drug Product:
A particular presentation of a medicine characterized by its pharmaceutical dosage form and the strength of the active ingredient(s). (Produit médicamenteux)

Drug Product, Existing:
An existing drug product is a DIN for which a benchmark price has been established in accordance with the Board's Guidelines. (See Chapter 1, subsection 3.3 of the *Compendium of Guidelines, Policies and Procedures*.) (Produit médicamenteux existant)

Drug Product, New:
A new drug product is one for which the introductory price is under review. Patented drug products are considered new in the year during which they are first introduced on the market in Canada or the year they receive their first patent(s) if previously marketed. For price review purposes, new drug products for a given year are those introduced between December 1, of the previous year and November 30, of the reporting year. Because of the filing requirements under the *Patented Medicines Regulations* and the manner of calculating benchmark prices, drug products introduced in December are considered to have been introduced in the following year. (See Chapter 1, subsection 3.2 of the *Compendium of Guidelines, Policies and Procedures*.) (Produit médicamenteux nouveau)

Emergency Drug Release (EDR) Program:
See Special Access Program.

Generic Product:
A drug product with the same active ingredient, strength and dosage form of a brand name drug product. (Produit générique)

Investigational New Drug (IND):
A drug that has been authorized for clinical evaluation (i.e. testing on humans) by Health Canada but that is not yet approved for sale for the indication under study. (Drogue de recherche)

Licence, Compulsory:
Referred to in subsection 79(1) of the *Patent Act*, means a licence granted by the Commissioner of Patents, before December 20, 1991, in accordance with subsection 39(4) of the *Patent Act*, R.S., 1985, c. P-4 that has been continued pursuant to subsection 11(1) of the *Patent Act Amendment Act, 1992* which permits the licencee to import, make, use or sell a patented invention pertaining to a medicine. Royalties payable are determined by the Commissioner of Patents who sets the terms of licences pursuant to subsection 39(5) of the *Patent Act*. (Licence obligatoire)

Licence, Voluntary:
A contractual agreement between a patent holder and a licensee under which the licensee is entitled to enjoy the benefit of the patent or to exercise any rights in relation to the patent for some consideration (i.e., royalties in the form of a share of the licensee's sales.) (Licence volontaire)

Medicine:
Any substance or mixture of substances made by any means, whether produced biologically, chemically, or otherwise, that is applied or administered *in vivo* in humans or in animals to aid in the diagnosis, treatment, mitigation or prevention of disease, symptoms, disorders, abnormal physical states, or modifying organic functions in humans and or animals, however administered. For greater certainty, this definition includes vaccines, topical preparations, anaesthetics and diagnostic products used *in vivo*, regardless of delivery mechanism (e.g. transdermal, capsule form, injectable, inhaler, etc.). This definition excludes medical devices, *in vitro* diagnostic products and disinfectants that are not used in vivo. (See *Compendium of Guidelines, Policies and Procedures*, Introduction, subsection 1.5.) (Médicament)

Notice of Compliance (NOC):
A notice in respect of a medicine issued by the Health Products and Food Branch of Health Canada under section C.08.004 of the *Food and Drugs Regulations*. The issuance of an NOC indicates that a drug product meets the required Health Canada standards for use in humans or animals and that the product is approved for sale in Canada. (Avis de conformité)

Patent:
An instrument issued by the Commissioner of Patents in the form of letters patent for an invention that provides its holder with a monopoly limited in time, for the claims made within the patent. A patent gives its holder and its legal representatives, the exclusive right of making, constructing and using the invention and selling it to others to be used. (Brevet)

Patented Medicine Price Index (PMPI):
The PMPI has been developed by the PMPRB as a measure of average year-over-year change in the transaction prices of patented drug products sold in Canada, based on the price and sales information reported by patentees. (Indice des prix des médicaments brevetés)

Patentee:
As defined by subsection 79(1) of the *Patent Act*, "the person for the time being entitled to the benefit of the patent for that invention (pertaining to a medicine) and includes, where any other person is entitled to exercise any rights in relation to that patent other than under a licence continued by subsection 11(1) of the *Patent Act Amendment Act*, 1992, that other person in respect of those rights;" (Breveté)

Pending Patent:
An application for a patent that has not yet been issued. (Brevet en instance)

NB: In cases where a medicine is sold before a patent is issued, it is the Board's policy once the patent is issued, to review the price of the medicine as of the date on which the patent application was laid open for public inspection. (See PMPRB Bulletin 15, page 7.)

Research and Development (R&D):
Basic or applied research for the purpose of creating new, or improving existing, materials, devices, products or processes (e.g. manufacturing processes). (Recherche et développement)

Research and Development—Applied Research:
Work that advances scientific knowledge with a specific practical application in view such as creating new or improved products or processes through manufacturing processes or through preclinical or clinical studies. (Recherche et développement—recherche appliquée)

Research and Development—Basic Research:
Work that advances scientific knowledge without a specific application in view. (Recherche et développement—recherche fondamentale)

Research and Development—Clinical Research:
The assessment of the effect of a new medicine on humans. It typically consists of three successive phases, beginning with limited testing for safety in healthy humans then proceeding to further safety and efficacy studies in patients suffering from the target disease. (Recherche et développement—recherche clinique)

Research and Development—Preclinical Research:
Tests on animals to evaluate the pharmacological and toxicological effects of medicines. (Recherche et développement—recherche pré-clinique)

Research and Development—Other Qualifying:
Includes eligible research and development expenditures that cannot be classified into any of the preceding categories of "type of research and development". It includes drug regulation submissions, bioavailability studies and Phase IV clinical trials. (Recherche et développement—Autres R-D admissibles)

Research and Development Expenditures:
For the purposes of the *Patented Medicines Regulations, 1994*, in particular sections 5 and 6, research and development includes activities for which expenditures would have qualified for the investment tax credit for scientific research and experimental development under the *Income Tax Act* as it read on December 1, 1987. (Dépenses en recherche et développement)

Current Research and Development Expenditures:
consist of the following non-capital expenses that are directly related to research work: (a) wages and salaries, (b) direct material, (c) contractors and sub-contractors, (d) other direct costs such as factory overhead, (e) payments to designated institutions, (f) payments to granting councils and (g) payments to other organizations. These elements are described in greater detail in the *Patentees' Guide to Reporting – Form 3* available from the PMPRB website under the heading of "Legislation, Regulations and Guidelines." (Dépenses courantes de recherche et développement)

Special Access Program (SAP):
A program operated by Health Canada to give practitioners access to drugs that are not approved or otherwise available for sale in Canada. (Formerly the EDR Program.) (Programme d'accès spécial)

Voluntary Compliance Undertaking (VCU):
A written undertaking by a patentee to adjust its price to conform with the PMPRB's Excessive Price Guidelines (see Chapter 1 of the *Compendium of Guidelines, Policies and Procedures*). Pursuant to the Board's Compliance and Enforcement Policy (see Chapter 2, section 7) the Chairperson may approve a VCU in lieu of issuing a Notice of Hearing if it is consistent with the Patent Act and the policies of the Board and in the public interest. Under the Board's Compliance and Enforcement Policy, a VCU can also be submitted following the issuance of a Notice of Hearing. A VCU submitted at this point must be approved by the Board. The Board reports publicly on all VCUs approved by the Chairperson or the Board. (Engagement de conformité volontaire)

Acronyms

This section provides the list of acronyms used in the Annual Report and frequently referenced by the PMPRB and its stakeholders.

ARC: Advance Ruling Certificate

ATC: Anatomical Therapeutic Chemical classification system

ATP: Average Transaction Price

CAC: Consumers' Association of Canada

CCOHTA: Canadian Coordinating Office for Health Technology Assessment

CDR: Common Drug Review

CEDAC: Canadian Expert Drug Advisory Committee

CGPA: Canadian Generic Pharmaceutical Association

CIHI: Canadian Institute for Health Information

CPI: Consumer Price Index

CPI (Rx): Consumer Price Index for Prescribed Medicines

DDD: Defined Daily Dose

DIN: Drug Identification Number

DPD: Drug Product Database (Health Canada)

DVA: Department of Veterans Affairs (U.S.)

EDR: Emergency Drug Release

FNIHB: First Nations and Inuit Health Branch (Health Canada)

FPG: First Patent Granted

F/P/T: Federal/Provincial/Territorial

FSS: Federal Supply Schedule (U.S.)

GDP: Gross Domestic Product

HDAP: Human Drug Advisory Panel

IPC: International Price Comparison

IPPI: Industrial Product Price Index

MNE: Maximum Non-Excessive (price)

MOU: Memorandum of Understanding

NAS: New Active Substance

NDMAC: Nonprescription Drug Manufacturers Association of Canada

NICE: National Institute for Clinical Excellence (U.K.)

NIHB: Non-Insured Health Benefits Program (Health Canada)

NOC: Notice of Compliance

NPDUIS: National Prescription Drug Utilization Information System

NPSS: Non-Patented Single Source (drugs)

ODB: Ontario Drug Benefit Plan

OECD: Organisation for Economic Cooperation and Development

OTC: Over-the-counter

PMPRB: Patented Medicine Prices Review Board

PMPI: Patented Medicine Price Index

PMQI: Patented Medicine Quantity Index

PPI: Product Price Index (U.S.)

R&D: Research and Development

Rx&D: Canada's Research Based Pharmaceutical Companies

SAP: Special Access Program (Health Canada)

TCC: Therapeutic Class Comparison

TPD: Therapeutic Products Directorate (Health Canada)

VCU: Voluntary Compliance Undertaking

WHO: World Health Organization

Annex 1

CRITERIA FOR COMMENCING AN INVESTIGATION

A price is considered to be within the Guidelines unless it meets the criteria for commencing an investigation. The criteria represent the standards the Board applies in order to allocate its resources to investigations as efficiently as possible. Their existence should not be construed as indicating that the Board accepts any deviation from the Guidelines. The Board is satisfied that its criteria assure all significant cases of pricing outside the Guidelines will be subject to investigation. In most instances where a price exceeds the maximum allowable price by an amount too small to trigger an investigation in one year, it is offset by a price below that which is permitted by the Guidelines the following year. The Board expects the prices of all patented medicines to be within the Guidelines and evidence of persistent pricing outside the Guidelines, even by a small amount, may be used as a criterion for commencing an investigation.

Criteria for Commencing an Investigation

Board Staff will commence an investigation into the price of a patented drug product when any of the following criteria are met:

New Drug Products

- The introductory price is 5% or more above the maximum non-excessive price;
- Excess revenues in the introductory period are $25,000 or more; or
- Complaints with significant evidence.

Existing Drug Products

- A price is 5% or more above the maximum non-excessive price and there are cumulative excess revenues of $25,000 or more over the life of the patent after January 1, 1992;
- Cumulative excess revenues are $50,000 or more over the life of the patent after January 1, 1992; or
- Complaints with significant evidence.

For more information on the Criteria for Commencing an Investigation, please consult Schedule 5 of the *Compendium of Guidelines, Policies and Procedures* available on our website under Legislation; Regulations; Guidelines.

ANNEX 2

PATENTED DRUG PRODUCTS INTRODUCED IN 2003

Brand Name	Company	DIN	NAS[1]/ FPG[2]	ATC[3]	Status	Category
3TC 300 mg/tab	GlaxoSmithKline	02247825		J	Within Guidelines	1
Accuretic (20/25) tab	Pfizer Canada Inc.	02237369		C	Within Guidelines	1
Actonel 35 mg/tab	Procter & Gamble Pharmaceuticals Canada Inc.	02246896		M	Within Guidelines	1
Agenerase 15 mg/mL	GlaxoSmithKline	02243543	NAS/FPG	J	Under Review	
Agenerase 50 mg/cap	GlaxoSmithKline	02243541	NAS/FPG	J	Under Review	
Agenerase 150 mg/cap	GlaxoSmithKline	02243542	NAS/FPG	J	Under Review	
Alertec 100 mg/tab	Shire Biochem Inc.	02239665	NAS/FPG	N	Within Guidelines	3
Alphagan P 1.5 mg/mL	Allergan Inc.	02248151		S	Under Review	
Angiomax 250 mg/vial	Oryx Pharmaceuticals Inc.	02246533	NAS	B	Within Guidelines	3
Avandamet (1/500) tab	GlaxoSmithKline	02247085		A	Within Guidelines	3
Avandamet (2/500) tab	GlaxoSmithKline	02247086		A	Within Guidelines	3
Avandamet (4/500) tab	GlaxoSmithKline	02247087		A	Within Guidelines	3
Avelox 1.6 mg/mL	Bayer Inc.	02246414		J	Within Guidelines	3
Bextra 10 mg/tab	Pfizer Canada Inc.	02246621	NAS	M	Within Guidelines	3
Bextra 20 mg/tab	Pfizer Canada Inc.	02246622	NAS	M	Within Guidelines	3
Children's Motrin 50 mg/tab	McNeil Consumer Healthcare	02247343		M	Within Guidelines	1
Children's Motrin Junior 100 mg/tab	McNeil Consumer Healthcare	02247344		M	Within Guidelines	1
Cialis 10 mg/tab	Eli Lilly Canada Inc.	02248088	NAS	G	Under Review	
Cialis 20 mg/tab	Eli Lilly Canada Inc.	02248089	NAS	G	Under Review	
Cipro XL 500 mg/tab	Bayer Inc.	02247916		J	Within Guidelines	1
Concerta 18 mg/tab	Janssen-Ortho Inc.	02247732		N	Under Review	
Concerta 36 mg/tab	Janssen-Ortho Inc.	02247733		N	Under Review	
Concerta 54 mg/tab	Janssen-Ortho Inc.	02247734		N	Under Review	
Coversyl 8 mg/tab	Servier Canada Inc.	02246624		C	Within Guidelines	1
Coversyl Plus (4/1.25) tab	Servier Canada Inc.	02246569		C	Within Guidelines	3
Crestor 10 mg/tab	AstraZeneca Canada Inc.	02247162	NAS	C	Within Guidelines	3
Crestor 20 mg/tab	AstraZeneca Canada Inc.	02247163	NAS	C	Within Guidelines	3
Crestor 40 mg/tab	AstraZeneca Canada Inc.	02247164	NAS	C	Within Guidelines	3
Diovan-HCT (160/25) tab	Novartis Pharmaceuticals Canada Inc.	02246955		C	Within Guidelines	1
Dukoral (1/250/250/250/250) vial	Aventis Pasteur Limited	02247208	NAS	J	Under Review	
Elidel 10 mg/gm	Novartis Pharmaceuticals Canada Inc.	02247238	NAS	D	Within Guidelines	3

Brand Name	Company	DIN	NAS[1]/ FPG[2]	ATC[3]	Status	Category
Evra (150/20) patch	Janssen-Ortho Inc.	02246340	NAS/FPG	G	Under Review	
Exelon 2 mg/mL	Novartis Pharmaceuticals Canada Inc.	02245240		N	Under Review	
Ezetrol 10 mg/tab	Merck Frosst Canada Inc.	02247521	NAS	C	Within Guidelines	3
Gamunex 100 mg/mL	Bayer Inc.	02247724		J	Under Review	
Hectorol 2.5 mcg/cap	Shire Biochem Inc.	02243790	NAS	A	Within Guidelines	3
Invanz 1000 mg/vial	Merck Frosst Canada Inc.	02247437	NAS	J	Under Review	
Keppra 250 mg/tab	Lundbeck Canada Inc.	02247027	NAS	N	Within Guidelines	3
Keppra 500 mg/tab	Lundbeck Canada Inc.	02247028	NAS	N	Within Guidelines	3
Keppra 750 mg/tab	Lundbeck Canada Inc.	02247029	NAS	N	Within Guidelines	3
Ketek 400 mg/tab	Aventis Pharma Inc.	02247520	NAS	J	Within Guidelines	3
Losec 40 mg/cap	AstraZeneca Canada Inc.	02016788		A	Within Guidelines	1
Lumigan 0.3 mg/mL	Allergan Inc.	02245860	FPG	S	Within Guidelines	3
Maxilene 40 mg/gm	RGR Pharma Ltd.	02244533		D	Within Guidelines	1
Maxilene 50 mg/gm	RGR Pharma Ltd.	02245939		D	Within Guidelines	1
Minirin 0.1 mg/tab	Ferring Pharmaceuticals Inc.	02246500		H	Within Guidelines	1
Nasacort AQ 55 mcg/dose	Aventis Pharma Inc.	02213834	FPG	R	Within Guidelines	1
Palladone XL 12 mg/cap	Purdue Pharma	02243159		N	Within Guidelines	1
Palladone XL 16 mg/cap	Purdue Pharma	02243160		N	Within Guidelines	1
Palladone XL 24 mg/cap	Purdue Pharma	02243161		N	Within Guidelines	1
Pegasys 180 mcg/syringe	Hoffmann La-Roche Canada Ltd.	02248077	NAS	L	Within Guidelines	3
Pegasys 180 mcg/vial	Hoffmann La-Roche Canada Ltd.	02248078	NAS	L	Within Guidelines	3
Pennsaid 16 mg/mL	Dimethaid Healthcare Ltd.	02247265		M	Under Review	
Preterax (2/0.625) tab	Servier Canada Inc.	02246568		C	Within Guidelines	1
Rapamune 1 mg/tab	Wyeth-Ayerst Canada Inc.	02247111		L	Within Guidelines	3
Reactine Allergy & Sinus (5/120) tab	Pfizer Canada Inc.	02246162		R	Under Review	
Refacto 1000 unit/vial	Wyeth-Ayerst Canada Inc.	02245951		B	Within Guidelines	1
Risperdal M-Tab 0.5 mg/tab	Janssen-Ortho Inc.	02247704		N	Within Guidelines	1
Risperdal M-Tab 1 mg/tab	Janssen-Ortho Inc.	02247705		N	Within Guidelines	1
Risperdal M-Tab 2 mg/tab	Janssen-Ortho Inc.	02247706		N	Within Guidelines	1
Solagé 20.1 mg/mL	Galderma Canada Inc.	02243257	NAS	D	Within Guidelines	3
Tarka (1/240) tab	Abbott Laboratories Ltd.	02240945		C	Within Guidelines	1
Tarka (2/180) tab	Abbott Laboratories Ltd.	02238096		C	Within Guidelines	1

Brand Name	Company	DIN	NAS[1]/ FPG[2]	ATC[3]	Status	Category
Tarka (4/240) tab	Abbott Laboratories Ltd.	02238097		C	Within Guidelines	1
Timentin (30000/1000) vial	GlaxoSmithKline	02247880		J	Under Review	
TNKase 50 mg/vial	Hoffmann La-Roche Canada Ltd.	02244826	NAS	B	Under Review	
Urso DS 500 mg/tab	Axcan Pharma Inc.	02245894		A	Within Guidelines	1
Xigris 5 mg/vial	Eli Lilly Canada Inc.	02247129	NAS	B	Within Guidelines	2
Xigris 20 mg/vial	Eli Lilly Canada Inc.	02247130		B	Within Guidelines	2
Zyprexa 15 mg/tab	Eli Lilly Canada Inc.	02238850		N	Within Guidelines	1

The Board's Guidelines establish three categories of new patented drug products for purposes of conducting introductory price reviews.

- Category 1 - a new DIN of an existing or comparable dosage form of an existing medicine, usually a new strength of an existing drug (line extension).
- Category 2 - the first drug to treat effectively a particular illness or which provides a substantial improvement over existing drug products, often referred to as "breakthrough" or "substantial improvement".
- Category 3 - a new drug or new dosage form of an existing medicine that provides moderate, little or no improvement over existing medicines.

For complete definitions of the categories, refer to the *Compendium of Guidelines, Policies and Procedures*, Chapter 3, section 3.

[1] NAS: New Active Substance

[2] FPG: First Patent Grant

[3] ATC: Anatomical Therapeutic Chemical Classification System

ANNEX 3

RESEARCH & DEVELOPMENT

Table 8 Range of R&D-to-Sales Ratios by Number of Reporting Companies and Total Sales Revenues

Range of R&D-to-Sales Ratio	2003 Number of Reporting Companies	2003 Total Sales Revenues ($millions)	2003 % Share	2002R Number of Reporting Companies	2002R Total Sales Revenues ($millions)	2002R % Share
0%	21	707.5	5.1	17	355.6	3.0
0%-10%	42	8,845.0	64.9	40	6,552.5	54.2
> 10%	20	4,064.6	30.0	22	5,173.0	42.8
Total	83	13,617.2	100.0*	79	12,081.2	100.0*

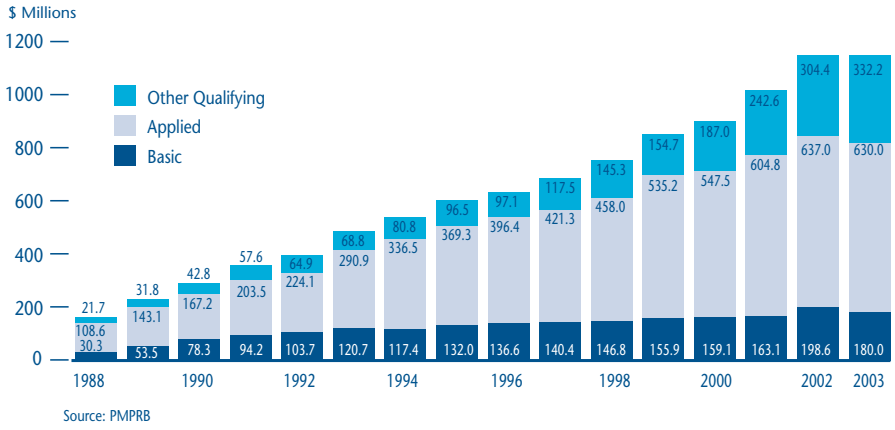
Source: PMPRB

* Values in this column may not add to 100.0 due to rounding.

R: Revised since release of *PMPRB 2002 Annual Report*.

FIGURE 19

Current R&D Expenditure by Type of Research, 1988-2003



Source: PMPRB

Table 9 Ratios of R&D Expenditure to Sales Revenue by Reporting Patentee[1] 2003 and 2002

Company	R&D-to-Sales Ratio (%) 2003	2002
3M Canada Company	0.5	0.8
Abbott Laboratories, Limited[2]	2.5	1.7
Actelion Pharmaceutiques Canada Inc[2].	8.0	23.5
Agouron Pharmaceuticals, Inc.	3.8	16.6
Alcon Canada Inc.	0.0	0.0
Allergan Inc.[2]	7.2	5.5
Altana Pharma Inc.[2, 3]	11.1	7.8
Amersham Health Inc.	0.0	0.0
Amgen Canada Inc.[2, 6]	8.4	20.1

Table 9 continued

Company	R&D-to-Sales Ratio (%)	
	2003	2002
AstraZeneca Canada Inc.[2]	8.9	9.1
Aventis Pasteur Limited [6]	83.9	75.7
Aventis Pharma Inc.[2]	11.7	14.3
Axcan Pharma Inc.[2]	23.9	21.6
Ayerst Veterinary Laboratories, Division of Wyeth-Ayerst Canada Inc.	0.0	0.0
Baxter Corporation	0.02	0.05
Bayer Inc., Healthcare Division[2, 6]	3.5	5.3
Bayer Inc., Agriculture Division	2.1	2.4
Berlex Canada Inc.[2]	6.5	6.2
Biogen Canada Inc.[6]	42.5	41.1
Biovail Pharmaceuticals Canada, Division of Biovail Corporation[6]	19.3	33.9
Boehringer Ingelheim (Canada) Ltd.[2]	20.9	32.8
Bracco Diagnostics Canada Inc.	0.0	0.0
Bristol-Myers Squibb Pharmaceutical Group[2]	8.3	9.2
Canderm Pharma Inc.	3.9	6.2
Chiron Canada ULC	31.1	8.4
Dimethaid Research Inc.[7]	47.9	-
Draxis Health Inc. (failed to file R&D information in 2003)	-	10.5
Elan Pharmaceuticals, Inc.	0.0	2.3
Eli Lilly Canada Inc. (includes Elanco Animal Health Division)[2, 6]	8.3	8.9
Enzon Pharmaceuticals Inc.	0.9	0.0
ESP Pharma Inc.[7]	0.0	-
Ferring Inc.	1.5	1.1
Fournier Pharma Inc.[2]	1.6	1.8
Fujisawa Canada Inc.[2]	12.7	11.6
Galderma Canada Inc.	0.9	1.0
Genzyme Canada Inc.[6]	0.7	0.8
GlaxoSmithKline[2, 6]	10.1	10.0
GlaxoSmithKline Consumer Healthcare Inc.	0.0	0.0
Grifols Biologicals Inc., (subsidiary of Probitas Pharma prev. Alpha Therapeutic Corporation)	0.0	0.0
Guilford Pharmaceuticals	0.0	0.0
Hoffmann-La Roche Limited, Canada[2, 6]	3.8	3.8
ICN Canada Ltd.	2.1	1.6
Intermune Inc.	0.0	0.0
Janssen-Ortho Inc.[2, 6]	9.8	8.2
Johnson & Johnson Merck, Consumer Pharmaceuticals of Canada	0.0	0.0
Leo Pharma Inc.[2]	5.9	5.2
Les Laboratories Inc[2, 8]	0.0	0.0[R]
Lundbeck Canada Inc.[2]	0.0	1.0
McNeil Consumer Healthcare Canada	2.2	1.8
Medicis Canada Ltd.	0.0	0.0
Merck Frosst Canada Ltd.[2, 6]	13.4	12.3
Merck Frosst – Schering Pharma.[7]	17.7	-
Merial Canada Inc.	0.7	0.6

Table 9 continued

Company	R&D-to-Sales Ratio (%) 2003	2002
Novartis Animal Health Canada Inc.	0.04	0.7
Novartis Consumer Health Canada Inc.	1.4	1.4
Novartis Ophthalmics	10.1	11.0
Novartis Pharmaceuticals Canada Inc.[2]	10.0	12.5
Novo Nordisk Canada Inc.[6]	1.4	0.9
Organon Canada Ltd.[2]	1.3	2.3
Organon Sanofi-Synthelabo Canada[4]	11661.6	0.0
Ortho Dermatological, Division of Johnson & Johnson Inc.	0.0	0.0
Paladin Laboratories Inc.[2]	6.6	5.7
Pfizer Canada Inc., Animal Health Group	1.7	1.6
Pfizer Canada Inc.[2]	9.5	12.0
Pfizer Canada Inc., Consumer Healthcare Division	0.9	1.0
Pharmaceutical Partners of Canada Inc.[7]	0.0	-
Pharmacia Canada Inc.	5.5	6.7
Pharmascience Inc.	10.8	9.1[R]
Procter & Gamble Pharmaceuticals Canada, Inc.[2]	6.0	8.3
Purdue Pharma[2]	2.6	3.9
Rare Disease Therapeutics Inc.	0.0	0.0[R]
Ratiopharm[6]	0.0	0.0
RGR Pharma Ltd.[7]	0.3	-
Sanofi-Synthelabo Canada Inc.[2]	53.4	42.0
Schering Canada Inc.[2]	3.4	8.9
Servier Canada Inc.[2]	10.3	14.9
Shire-BioChem Inc.[2,6]	16.6	98.0
Solvay Pharma Inc.[2]	0.05	0.8
Stiefel Canada Inc.[2]	3.2	1.2
Tyco Healthcare Group Canada Inc.	0.0	0.02
Wyeth-Ayerst Canada Inc.[2]	13.6	13.5
Yamanouchi Pharmaceutical Co. Ltd.	0.0	0.0

Source: PMPRB

1 Revenue from royalties is included in calculating each company's ratio, but not included in calculating industry-wide ratios (to avoid double-counting of sales revenue). Federal and provincial government grants are subtracted from the R&D expenditure in calculating individual R&D-to-sales ratios, but are included in calculating industry-wide ratios. Differences between the list of firms filing data on prices and those filing R&D data are due to differences in reporting practices of patentees and their affiliates or licencees. Also, some veterinary patentees (i.e., those without revenue from sales of products for human use) are required to file information on R&D expenditure but not price and sales information.

2 Member of Rx&D.

3 Formerly known as BYK Canada Inc.

4 Joint venture between Organon Canada Ltd. and Sanofi-Synthelabo Canada Inc. The ratio has been verified with the company. Organon Canada Ltd. and Sanofi-Sythelabo Canada Inc. share R&D funding equally.

5 Formerly known as Altimed Pharmaceutical Inc.

6 Member of BIOTECanada.

7 Not a patentee in 2002.

8 Les Laboratories Inc. is the patent owner; however BLES Biochemicals is the Licensee as well as manufacturer and had filed price and sales data in 2002 and 2003.

R: Revised since the release of the *PMPRB 2002 Annual Report*.

Table 10 Current R&D Expenditure by Type of Research, 2003 and 2002

Type of Research	2003 $M	2003 %	2002R $M	2002R %	Annual Increase in Expenditure (%)
Basic	**180.0**	**15.7**	**198.6**	**17.4**	**-9.3**
– Chemical	77.8	6.8	104.4	9.1	-25.4
– Biological	102.2	8.9	94.1	8.2	8.6
Applied	**629.7**	**55.1**	**636.6**	**55.8**	**-1.08**
– Manufacturing Process	99.8	8.7	117.4	10.3	-14.9
– Pre Clinical Trial I	24.8	2.1	46.3	4.1	-46.4
– Pre Clinical Trial II	17.6	1.5	30.1	2.6	-41.5
– Clinical Trial Phase I	54.1	4.7	40.1	3.5	34.9
– Clinical Trial Phase II	102.5	8.9	104.8	9.1	-2.1
– Clinical Trial Phase III	330.9	28.9	297.9	26.1	11.1
Other Qualifying R&D	**332.2**	**29.0**	**304.3**	**26.6**	**9.1**
Total	1,142.5	100.0 *	1,139.9	100.0*	0.2

Source: PMPRB

* Values in this column may not add to 100.0 due to rounding.

R: Revised since the release of the *PMPRB 2002 Annual Report.*

Table 11 Current R&D Expenditure by R&D Performer, 2003 and 2002

R&D Performer	2003 $M	2003 %	2002R $M	2002R %	Annual Increase in Expenditure (%)
Intramural					
– Patentees	630.0	55.1	622.0	54.5	1.27
Extramural					
– Universities and Hospitals	127.5	11.1	139.8	12.2	-8.84
– Other Companies	258.5	22.6	277.6	22.5	-6.8
– Others	126.4	11.0	100.3	8.8	26.0
Total	1,142.5	100.0*	1,139.9	100.0*	0.2

Source: PMPRB

* Values in this column may not add to 100.0 due to rounding.

R: Revised since the release of the *PMPRB 2002 Annual Report.*

Table 12 Total R&D Expenditure by Source of Funds, 2003 and 2002

Source of Funds	2003 $M	2003 %	2002R $M	2002R %	Annual Increase in Expenditure (%)
Company Funds	1,127.1	94.5	1,115.3	93.0	0.9
Federal/Provincial Governments	11.2	0.9	14.4	1.2	-22.2
Others	54.1	4.5	68.9	5.7	-21.4
Total	1,192.4	100.0*	1,198.7	100.0*	-0.6

Source: PMPRB

* Values in this column may not add to 100.0 due to rounding.

R: Revised since the release of the *PMPRB 2002 Annual Report.*

Table 13 Current R&D Expenditure by Location, 2003 and 2002

Location of R&D	2003 $M	2003 %	2002R $M	2002R %	Annual Increase in Expenditure (%)
Atlantic Provinces	21.4	1.9	26.5	2.3	-19.2
Québec	482.3	42.2	488.8	42.9	-1.3
Ontario	537.2	47.0	480.6	42.2	11.8
Western Provinces	101.5	8.9	140.1	12.3	-27.5
Territories	0.1	0.008	3.9	0.3	-97.8
Total	1,142.5	100.0*	1,139.9	100.0*	0.2

Source: PMPRB

* Values in this column may not add to 100.0 due to rounding.

R: Revised since the release of the *PMPRB 2002 Annual Report.*

Table 14 Current R&D Expenditure by Province and Type of R&D Performer, 2003

Province		R&D Performer							Percentage of Expenditures
		Patentees	Other Companies	University	Hospitals	Others	Total	Expenditure by Rx&D Members	
Newfoundland	$(000)	885.20	881.96	1,067.24	468.12	2,018.06	5,320.57	4,624.97	0.46
	%	16.63	16.57	20.05	8.79	37.92	100.00	0.48	
Prince Edward Island	$(000)	203.45	536.23	117.55	0.0	119.90	977.12	899.83	0.086
	%	20.82	54.87	12.03	0.0	12.27	100.00	0.095	
Nova Scotia	$(000)	3,354.56	3,315.18	863.59	2,921.08	1,830.31	12,284.72	10,824.16	1.65
	%	27.30	26.98	7.03	23.77	14.88	100.00	1.13	
New Brunswick	$(000)	737.28	855.84	45.7	587.36	601.39	2,827.57	2,086.41	0.247
	%	26.07	30.26	1.61	20.77	21.26	100.00	0.219	
Québec	$(000)	302,252.77	94,268.06	10,389.02	24,196.22	51,201.43	482,307.49	462,853.35	42.21
	%	62.66	19.54	2.15	5.017	10.61	100.00	48.67	
Ontario	$(000)	306,277.25	118,085.99	19,913.55	38,513.54	54,423.67	537,214.01	380,818.949	47.01
	%	57.01	21.98	3.70	7.16	10.13	100.00	40.12	
Manitoba	$(000)	2,629.33	5,113.69	1,033.21	3,489.93	2,042.66	14,308.83	11,289.51	1.25
	%	18.37	35.73	7.22	24.39	14.27	100.00	1.19	
Saskatchewan	$(000)	1,422.84	1,719.60	1,879.68	754.29	1,509.27	7,285.67	6,428.00	0.638
	%	19.52	23.60	25.80	10.35	20.71	100.00	0.67	
Alberta	$(000)	6,884.41	10,105.78	7,201.94	3,481.06	6,186.82	33,860.01	30,781.57	2.964
	%	20.33	29.84	21.27	10.28	18.27	100.00	3.237	
British Columbia	$(000)	5,348.66	23,691.36	6,327.09	4,176.50	6,531.89	46,075.51	38,441.03	4.033
	%	11.60	51.41	13.73	9.06	14.17	100.00	4.04	
Yukon; N.W.T.; Nunavut	$(000)	0.00	0.00	83.0	3.32	0.00	86.32	83.0	0.008
	%	0.00	0.00	96.15	3.84	0.00	100.00	0.009	
Canada	$(000)	629,995.75	258,573.69	48,921.57	78,591.42	126,465.39	1,142,547.82	949,130.77	100.00
	%	55.14	22.63	4.28	6.87	11.06	100.00	100.00	

Source: PMPRB

1 The percentage under each R&D category gives the percentage of all money spent in that category in that province.

2 Expenditure as a percentage of total means percentage of R&D expenditure in that province compared to total R&D in Canada.

3 Values in rows and columns may not equal totals due to rounding.