REGULATORY AND TRADE DEVELOPMENTS

DO WE NEED THE PMPRB ANY LONGER?

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Introduction

The Patent Medicine Prices Review Board ("PMPRB" or "Board") is now twenty years old. The Board has recently conducted a wide-ranging stakeholders consultation, commenced in mid-2006, relating to key aspects of the guidelines applied by the Board's staff to assess whether the introductory price of a new patented medicine is excessive and merits regulatory intervention. To date, the Board has not indicated when it might publish a revision of its price guidelines.

In this article we consider whether the PMPRB is still necessary in light of industry and institutional developments over the past two decades.

We suggest that the answer is "no", that is, a special regulatory scheme that supervises all patented medicine prices is not needed. Rather, existing remedies under the *Patent Act*, with possible minor amendments, and the *Competition Act*, now provide sufficient safeguards against excessive prices being exacted by Canadian manufacturers of patented pharmaceuticals.

Background

Prior to the 1987 Canada-US Free Trade Agreement ("FTA"), Canada had a longstanding policy of providing "compulsory" patent licences for pharmaceutical patents. Under this compulsory licensing policy, patentees receive an administratively determined licence "royalty" from generic manufacturers. Unique among OECD countries, the compulsory licensing policy facilitates rapid entry of low priced "generic" copies of patented pharmaceuticals. Combined with provincial "no substitution" drug insurance plan policies requiring pharmacists to dispense the lowest priced "molecule" unless otherwise specified by the prescription, this policy has significantly reduced pharmaceutical costs to Canadian taxpayers, insurers and consumers over the several decades that it has been in force. This policy also facilitates the development of a Canadian "generic" pharmaceutical sector to a scale that has allowed for a substantial domestic manufacturing capability and for a competitive export presence.

Not surprisingly, the policy has been heavily criticized by both the innovative pharmaceutical sector, which argued that the policy stifled potential Canadian R&D activities, and by the U.S. Government.

The FTA provides for the phased elimination of this compulsory licensing scheme and a return to the generally applicable patent exclusivity period.

In return for the elimination of compulsory licensing, the U.S. Government agreed to a Canadian administered price regime which would prevent "excessive" pricing by patentees. It has been suggested that there was also a side-understanding that U.S. patented pharmaceutical manufacturers would collectively devote 10% of their Canadian patented pharmaceutical revenues to R&D

within Canada. This agreed scheme was subsequently broadened to cover all patented pharmaceuticals in amendments to the *Patent Act* pursuant to the FTA *Implementation Act*.

The *Patent Act* amendments established an independent tribunal, the PMPRB, with the authority to roll back the Canadian "ex-patentee" prices of medicines to which a Canadian patent pertains.

The Board's pricing guidelines, published shortly after its creation, established a "price-cap" method which relies primarily on price/value comparisons with comparable medicines already sold in Canada at the time of introduction of a new patented medicine. Under this method, the initial price for a minority of new patented medicines considered to be "breakthroughs" or "substantial improvements", either in terms of therapeutic value or in terms of reduced health care costs, may be equivalent to the medicine's international median price at that time. The initial prices for the majority of new patented medicines, medicines deemed to be moderate therapeutic improvements or essentially line extensions, are generally limited to the current price of the highest priced medicine (patented or not) in the new patented medicine's therapeutic class.

After the initial price is established in the market (this price may be, but is not usually, lower than the maximum price under the Board's price guidelines), subsequent price increases during the remaining term of the relevant patent(s) pertaining to the medicine are subject to a price cap based on changes to the Consumer Price Index.

Under the Patented Medicines Regulations, patentees must also report R&D expenditures to the Board which publishes aggregate R&D data, together with other patented medicine price trend data, in its annual reports.

By any conventional public administration measure, this scheme has been a success.

Patentees almost always accept the initial price limit calculated using the Board's guidelines by the Board's staff. Accordingly, very few formal Board price review hearings have been required. When a Board hearing is actually conducted, the Board's findings have been consistent with the position of its staff. The Federal Court has consistently endorsed the administrative procedures employed by the Board and the Board's interpretation of its legislation. The overall taxpayer costs of the Board are miniscule compared to the Board's overall price suppression effects. The Board is well-regarded by the provinces, which is probably not surprising since the Board helps to reduce provincial drug plan costs and helps the provinces to avoid testy price negotiations when considering inclusion of a new patented medicine in their public drug insurance plans. The Board has initiated or participated in a number of helpful federal-provincial analytical projects. There has been no organized innovative pharmaceutical lobby to eliminate the Board or to revamp its legislation. Canadian pharmaceutical patent policy is no longer regarded as a trade irritant, even by U.S. administrations.

Thesis

Despite this scheme's obvious successes, this paper argues that direct regulation of all patented medicine prices by the Board is no longer necessary. It is also argued that, if the scheme is retained, the PMPRB's general price control standards will increasingly create strong disincentives to the introduction of some of the most innovative, and quite costly, new patented medicines, regardless of the extent to which they may be liberalized as a result of the current price guidelines review.

Our main arguments are:

(1) Since 1987, provincial government countervailing monopsony power derived from public drug insurance plan administration and aided by improved analytical techniques has become far more effective. Government institution development and cooperation has increased. There is an increasing population of domestically educated pharmaco-economics professionals. At the same time, however, the actual monopoly power accruing to new drug patents has, with few exceptions, been declining as pharmaceutical options proliferate and the range of unpatented pharmaceuticals increases. These processes show no signs of reversing.

(2) More appropriate remedial structures are available elsewhere in the *Patent Act* and the *Competition Act* to address, on a case-by-case basis, specific situations where provincial monopsony power is insufficient.

(3) The PMPRB's inevitable focus on constraining a new patented medicine's "initial price", which addresses the medicine's initial approved indications relative to competing medicines at that time, has failed, and increasingly will fail, to take into account the total value of the patented medicine over its life cycle as disclosed by post-approval research.

(4) As a result of (3), in many cases but especially for the most innovative medicines and those which address life-threatening conditions, the Board is fated to keeping lifetime patent returns unnecessarily low and below an overall return that might reasonably constitute "abuse of patent".

(5) Amendments to the Board's enabling legislation or relaxation of its price guidelines will likely be insufficient since they will necessarily protect the legitimacy of the Board's practices and maintain consistency with them. If implemented, such measures would, in any event, largely be redundant given existing general remedies discussed in (3) above.

Evolving Provincial Monopsony Power and Patented Monopoly Power

The PMPRB is rightly characterized as a consumer-protection agency, but the "consumers" that it protects are primarily the drug plans of the provincial and territorial governments, and private insurers (whose coverage and insured amounts are generally tied to the provincial plans). Relatively few Canadians pay the full price for patented prescription medicines. It is estimated that in 2005, the federal and provincial governments and private sector insurers were responsible for over 80% of all prescription drug expenditures in Canada.[1]

Patented pharmaceutical list prices for pharmacies tend to be fairly uniform across Canada, constituting a standard national ex-patentee price plus a provincially set wholesale/retail mark-up. Further, pharmacy dispensing fees are generally negotiated with provincial governments by provincial pharmacy regulatory bodies.

Two provincial practices create strong incentives against geographic or customer-group price discrimination by all pharmaceutical suppliers:

1. A requirement, for provincial drug plan eligibility, that the "reimbursement price" be the best available ex-manufacturer price.[2]

2. A requirement that rebates and other price

concessions must be calculated into the "reimbursement" price.[3]

Of greater significance is the increasing sophistication and stringency of the criteria applied by the province in determining whether a drug should be "listed" on provincial drug formularies and the reimbursement price at which the drug is to be listed.

The *de facto* provincial leader in this regard is Ontario.[4] In addition to clinical efficacy evidence, Ontario now requires listing applications to include "evidence demonstrating the benefit of the product in relation to the cost of the product and to any alternative products or treatments" in a drug plan listing submission.[5]

Submission guidance advises that, to satisfy this condition, manufacturers are expected to submit:

(1) A pharmacoeconomic analysis prepared in accordance with the Ontario Guidelines for Economic Analysis of Pharmaceutical Products,[6] and

(2) An ODB Financial Impact Analysis Summary.[7]

Many other jurisdictions have developed pharmaceutical cost-effectiveness modelling as a component of public health planning. These analyses are often internet-accessible and provide a significant source of additional corroborative analysis for provincial and federal drug plan administrators.

Many Canadian universities, led by McMaster University in Hamilton, Ontario, have developed significant competency in pharmaeconomics research and teaching.

Since the 1990's a little known but influential federal agency, the Canadian Agency for Drugs and Technologies in Health ("CADTH") (formerly the Canadian Coordinating Office for Health Technology Assessment or "CCOHTA") – a creation of the federal Department of Health – has grown in significance through extensive funding of economic assessments of a broad range of health technologies, with a particular emphasis on evaluating new and existing competing drug therapies, using increasingly sophisticated pharmacoeconomics techniques.

CADTH now also provides resources to support a federal-provincial arrangement on "Common Drug Review" ("CDR") aimed at standardizing the information base for provincial listing decisions.

CADTH has published "Procedures for Common Drug Review" and funds and provides administrative support for the Canadian Expert Drug Advisory Committee ("CEDAC") which publishes non-binding listing recommendations together with reasons.[8]

Given the proliferation of pharmaceutical products in the latter half of the twentieth century (arguably in large part as a result of effective patent laws being implemented in almost all free-market economies), very few new pharmaceuticals now constitute true breakthroughs in the sense of providing effective treatment of a significant but previously untreatable disease or condition. The preponderance of new pharmaceuticals offer improved benefits over other available therapies (for example, better "bad" cholesterol reduction, reduced side effect risk when treating anxiety or depression, or better inhibition of cancerous tumors).

Therefore, over a broad range of therapies, increasing provincial government monopsony power is further enhanced by the presence of numerous competing drug therapies and the need on the part of manufacturers to present, in listing and CEDAC submissions, persuasive cost-benefit analyses that take into account both direct

and indirect costs and benefits of existing competing drug therapies.

Although provincial governments do not directly set or regulate patentee prices, a knowledgeable patentee will generally know, within a fairly narrow range, what price needs to be proposed in a listing submission to present a persuasive cost effectiveness analysis.

Effectively, the provinces and CEDAC now employ much the same therapeutic cost comparison techniques for new patented pharmaceuticals as does the PMPRB, but with the additional requirement of a more precise relative benefits assessment.

The chances that an acceptable listing price, as determined through these techniques, would exceed the maximum price established by the PMPRB's guidelines would now appear to be low. In fact, the strict provincial listing criteria would now appear to favour provincial formulary prices which could tend, on average, to be lower than the maximum price acceptable to the PMPRB.

Accordingly, the chances of a province listing a new patented pharmaceutical at a reimbursement price that would constitute an excessive or undue return to the Canadian patentee is probably quite slim. Canada is not normally the first major market in which a new patented pharmaceutical is introduced. By the time of a Canadian launch, there is generally a range of international ex-patentee prices with which to compare the Canadian patentee's proposed drug plan price. Very few new pharmaceuticals now represent such a major therapeutic improvement for which a decision not to list would entail substantial political costs.

Absent the PMPRB, patentees could conceivably elect to establish a high price for their pharmaceuticals and to forego provincial drug plan listings. In reality, however, private insurers would be very reluctant to cover such a drug, or they may elect to provide coverage only up to the cost of a low cost therapeutic substitute. For their part, prescribers would have strong reasons not to prescribe a drug that was not an outright breakthrough to uninsured patients who pay directly for the medication.

On balance, increasing provincial countervailing monopsony power and the declining monopoly power associated with most new pharmaceutical patents means that, going forward, only a few new patented pharmaceuticals might be able to command prices in the Canadian market that might constitute an "excessive" transfer of wealth from consumers/taxpayers to patentees.

Targeted remedies that already exist, rather than an all-encompassing price regulation scheme, are appropriate for these situations of potential market power abuse.

Existing Abuse of Patent Platforms to Build On

The PMPRB scheme can be characterized as a special carve out from the general law providing remedies for "abuse of patent". Although not strictly necessitated by the current legislation, the PMPRB has elected to act as a general regulatory body and not as an application-driven adjudicator. Absent legislative direction, it is doubtful that the PMPRB would be inclined to substitute a third party application-driven adjudicative model for the regulatory model that it has employed for the past twenty years. It is also worth noting that the Board was established with the maximum possible independence from the government. There is no power to issue directions to the Board, nor can the government vary or reverse Board decisions, or require their reconsideration by the Board.

Taking into account the current degree of countervailing bargaining power in the market, targeted remedies are now sufficient. An application-driven scheme meets this objective.

There are presently two complimentary application-driven abuse of patent provisions in Canadian law.

First, under the *Patent Act*, the Attorney General or "any person interested" may, starting three years after the grant of the patent, apply to the Commissioner of Patents alleging an "abuse of the exclusive rights" (paragraph 65(8)(i)). The *Patent Act* (subsection 65(2)) defines "abuse" in terms of market foreclosure[9] and harm to industrial development rather than in terms of excessive wealth transfers from consumers/taxpayers to patentees as is presently the case for the pharmaceutical specific scheme.

However, it would be fairly straightforward to amend subsection 65(2) to include charging excessive prices as a deemed abuse and to provide statutory guidance on what constitutes "excessive prices" as part of amending legislation to eliminate the current general price review scheme.

It would also be possible to retain the PMPRB as decision maker and adjucator in such case-by-case application-activated applications or to provide the Commissioner of Patents with additional special decision-making expertise, and to also expressly provide applicant standing to the provincial and federal Health Ministers.

Unlike the current patented pharmaceuticals scheme which focuses on price roll backs and forfeiture by the patentee of "excess revenues" collected, the "abuse" remedies of subsection 66(1)[10] include compulsory licencing and revocation of the patent. Again, the general abuse of patent remedies provision could easily be amended to incorporate these price roll back/revenue forfeiture remedies for pharmaceutical patents should compulsory licencing fail to offer an adequate remedy, and to adopt complementary measures to prevent jurisdiction avoidance through patent dedication or abandonment.

Second, section 32 of the *Competition Act* authorizes the Federal Court, on application of the Attorney-General of Canada, to make remedial orders if it finds that a firm has used the patents, or other intellectual property rights granted by statute, to unduly restrain trade or to lessen competition.

As with the *Patent Act*, the *Competition Act* focuses on the impact of patent abuse on the competitive process, and not immediate excessive wealth transfer. Should direct prohibition be deemed necessary to address short term wealth transfer, this scheme could be amended in much the same fashion as the *Patent Act*.

Amending the *Patent Act* would probably be preferable since the *Competition Act* addresses all statutory intellectual property abuses, and not just patent abuses.

Undue Attention to Introductory Value Suppresses Legitimate R&D Returns

Having adopted a general industry-wide price review model, the PMPRB must at all times be in a position to ascertain whether or not a patented pharmaceutical's ex-patentee price is excessive or not.

There are two basic models for industry-wide price regulation: (i) cost plus a reasonable rate of return; and (ii) price benchmarking/price cap. In practice, however, regulatory agencies have often combined the elements of each model.

The impossibility of ascertaining reasonable unit "costs" for individual drugs where a large portion of costs consist of sunk and often unallocable R&D costs, administrative and marketing costs are generally common to a number of products, and the total lifetime sales of a new patented medicine are virtually impossible to predict, all but necessitated the Board employing a price benchmarking/price cap at the outset

of its mandate. A price-based approach, in turn, requires an objective standard of patented medicine value under Canadian market conditions which can be estimated to a degree by "course of treatment" price comparisons with other drug therapies that have received regulatory approval to treat the same conditions.[11] Pursuant to this logic, the Board concluded that international prices for the new patented medicine should only be taken into consideration where no relevant domestic prices are available or as a reward for superior performance.

Provincial governments and private insurers need to know whether to reimburse and, if so, at what price. By convention, patented drug suppliers have sought to introduce their products at the highest possible price assuming that, as time goes by, other competing products are likely to appear to put price pressure on their own product and that the acceptable uses of a drug are not likely to expand much into higher value areas over the period of patent protection.

Therefore, the price at which a patented pharmaceutical is introduced has become the Board's regulatory focus.

Still, the initial value of a new pharmaceutical is a function of the drug's initial approved "indications". For a variety of reasons, and particularly so for "lifesaving" drugs in fields such as virology and oncology, manufacturers now often obtain initial regulatory approval for an indication or set of indications that does not correspond to the overall expected therapeutic utility of the drug. These reasons include research costs, research ethics, the need to secure some kind of approval to use the patent to delay regulatory review of generic products, difficulties in designing testable hypotheses for clinical trials, and marketing pressure to expand product portfolios and to begin recovery of sunk R&D costs. Accordingly, clinical trial reports used to establish efficacy for initial drug approval purposes increasingly define a range of "approved indications", while theory, pharmacokinetics, or anecdotal or small study clinical observation would support a broader range of uses. A clinical trial must often, for ethical reasons, be terminated once the hypothesized result is statistically established, even though other more significant hypotheses may still be tested or the data indicates that a broader range of approved indications could potentially be demonstrated with a longer trial and/or a larger subject population.

Over time, hands-on "off label" use and more focussed clinical trials may be employed to broaden the range of approved indications and/or narrow contraindications, safety warnings and adverse drug responses in the drug's approved product monograph. These changes in use over time create additional legitimate value in the product's patent.

Such expected life-cycle value can shape the innovator's overall R&D investment (which patent protection is designed to help recoup). Without exception, however, such developments have not resulted in material changes in the maximum price acceptable to the PMPRB. Thus, the need to secure a legitimate regulatory model has effectively predisposed the PMPRB to under-value pharmaceutical patents and to under-price patented medicines as a group.

The Board's established price regulation practices also help to frame some other fundamental questions:

(i) Can, or should, a general rule be established for all patented medicines for the determination of "excessive prices"? (Not surprisingly, Parliament has completely ducked the question of what constitutes an "excessive price").

(ii) What is the economic and policy rationale for concluding that, save in the few cases of a breakthrough or marked therapeutic

improvement, any price over the highest prevailing domestic price in the relevant therapeutic class is excessive even if that price is for an unpatented medicine?

(iii) If there is already a range of international prices for a new patented medicine, does it not seem more sensible that for any new patented drug to Canada at least the median of that range should indicate a price at which consumers are not unduly transferring wealth to the patentee?

(iv) Is there any basis to conclude that the highest international price, or indeed any price above the median international price, for a drug exhibiting improvement in therapeutic value, constitutes an excessive transfer of wealth from consumers to the patentee?

(v) If the purpose of a patent is to provide an opportunity to the patentee to earn economic rents, should the patentee not have that opportunity rather than have its prices line up in most cases with competing products?

(vi) Why should a patentee's price ever be held to the price of an unpatented therapeutic substitute (as can occur under current PMPRB guidelines)?

Admittedly, these questions have a rhetorical element. Any set of general administered price rules will necessarily tilt toward consumers in order to achieve political legitimacy. For example, it would simply be impossible, given the need to maintain the legitimacy of past decisions, for the PMPRB to begin its internal review from a *tabula rasa* position such as might hypothetically be articulated as follows:

> Pharmaceutical Patentees have a right to try to obtain profits from their inventions which are higher than their competitors, particularly competitors not exercising patent rights. Government intervention is appropriate only in those specific cases when it is clear that the patentee's price transfers substantially more wealth from Canadian consumers and taxpayers, than the patentee has succeeded in achieving in other jurisdictions with comparable health care options.

To return to our basic thesis: with the general availability of so many therapeutic choices and robust cost-effectiveness information available about each, general rules prescriptions concerning "excessive prices" are necessarily arbitrary. Whether a patented medicine's price is akin to abuse of patent is a function of the actual market power of the patentee in Canadian circumstances.

Amendment of the PMPRB's Enabling Legislation or its Guidelines at this Stage are Wrong Options

For worse and not better, the PMPRB is now locked into a general price review regulatory model while current reality demands only a case-by-case adjudicative framework.

The Board is currently reassessing the price guidelines. However, the issues identified in the Board discussion paper (the categorization of new patented medicines, the approach to reviewing introductory prices including price tests and whether prices in specific Canadian submarkets should be regulated) disclose an underlying assumption that the basic regulatory model continues to be appropriate and that only marginal adjustments to this model might be merited.[12]

In reality, the Board is simply not in a position to dramatically revise its position on what constitutes

an excessive price or to discard a general price comparison/price cap based regulatory model which focuses on introductory prices. To do so would call into question twenty years of managed prices which has generally been viewed as politically successful, particularly by the Provinces.

Equally, the Board is not in a position to narrow its expansive interpretation of "patent pertaining" to cover, for example, only the root medicine patent (which is the relevant patent for the purposes of the generic drug submission delay scheme of the Patented Medicine (Notice of Compliance) Regulations), having successfully persuaded the Federal Court that any patent that bears a relationship to the production of the drug, including new process patents and delivery system patents, keeps the drug under the Board's jurisdiction.

Statutory amendments could conceivably ensure more dramatic changes in the way the Board regulates. For example:

(i) "Patent pertaining" could be redefined to cover only the root medicine patent or patents for use.

(ii) The Board could be recast as an application-driven adjudicative body with a reporting function. This would eliminate the basis for price guidelines and the advisory and compliance monitoring staff who currently do the real work.

(iii) The concept of "excessive" could be redefined to provide an opportunity to earn economic rents.

However, such amendments would probably leave the patented pharmaceuticals scheme with few, if any, differences from the current general abuse of patent remedy.

On balance, relying on an amended section 65 abuse of patent remedy is the better alternative. Its remedial portfolio already includes a far more persuasive and market-based remedy and deterrent to abuse – compulsory licencing. The provision also has a sensible wait-and-see requirement before an application can be commenced – three years – which, for patented pharmaceuticals, could readily be adapted to three years from the initial Health Canada approval to market the pharmaceutical in order to provide an opportunity to test the sufficiency of provincial countervailing "buyer power".

Conclusion

General regulatory schemes such as that administered by the PMPRB invariably evoke criticisms from the regulated industry that they are too restrictive, too rigid, and/or too unfriendly or insensitive to industry.

At the same time, however, the regulated industry seldom asks for the overthrow of the regulator in favour of a scheme that contemplates only case-by-case intervention in demonstrable situations of market failure.

Although general direct regulation may appear arcane and may often generate suboptional results, it does provide certainty and price legitimacy from "government approval" in the sense that all competitors are treated somewhat equally (in this case equally disadvantaged). It becomes the "devil you know" compared to less predictable reliance on market forces and specific remedial intervention based on actual commercial conduct.

Perhaps it should not be surprising, therefore, that none of the written industry submissions in the current Price Guidelines review have addressed the actual current need for the PMPRB and the potential value of other remedies.

The closest that any submission comes to the "overhaul" position is that of RX&D, the Canadian Association of innovative pharmaceutical manufacturers, which has recommended that "the PMPRB should only assert its jurisdiction in cases where prices appear to be excessive in the context of the patentee abusing its patent rights", where "pricing would be considered truly egregious" The higher of the highest international or Canadian Therapeutic Class price appears to be suggested for all new patented medicine (i.e., a higher price cap). Otherwise, however, the Board's practices would remain the same under this proposal.[13]

On the other hand, this paper suggests that elimination of the Board and reliance on the pre-existing *Patent Act* and *Competition Act*, where necessary, would in fact both generate consumer fairness and offer improved incentives for continued introduction of new innovative pharmaceuticals into the Canadian market on a timely basis.[14]

Notes

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[1] According to the Canadian Institute for Health Information, in the publication "Drug Expenditures in Canada 1985-2005", expenditures on prescribed drugs are expected to have reached $20.6 billion in 2005. Of this amount, public sector expenditures are forecast to represent 46%, private insurer expenditures are forecast to represent 34.4%, and household out-of-pocket expenses are forecast to represent 19.6%.

The federal government is also a significant purchaser and reimburser through direct purchases by various departments, particularly for the Canadian Forces, and through insurance for native peoples by the Department of Indian and Northern Affairs.

[2] British Columbia is also experimenting with "reference pricing" whereby drug plan beneficiaries will be reimbursed only up to the price of the least cost "reference drug" deemed to be therapeutically comparable by the provincial government.

[3] The Quebec government has commenced a number of civil actions against pharmaceutical suppliers seeking to recover for taxpayers the alleged value of rebates provided to pharmacists by the suppliers as a stocking and/or dispensing incentive.

Most recently, Bill 102, a comprehensive revision of the administration of the Ontario Drug Benefit Program including the administration of the Ontario Drug Benefit Formulary, established a statutory prohibition against rebates on listed drugs.

[4] Ontario Bill 102 has recently provided for a significant expansion of the "generic drug substitution rule" without necessarily going all the way to reference pricing (i.e., reimbursement only to the price of the lowest price therapeutic substitute). A new section 1.1 to the *Drug Interchangeability and Dispensing Act* provides:

> Executive officer and interchangeability
> 1.1 (1) The executive officer may designate a product as being interchangeable with another product by designating it as such in the Formulary.
> Formulary and interchangeability
> (2) A product becomes interchangeable with another product on the effective date of its being designated as interchangeable with that product, and ceases to be interchangeable with that product on the effective date of the removal of its interchangeability designation by the executive officer.
> Requirements for interchangeability
> (3) The executive officer may designate a product as being interchangeable with another product if it is in the public interest to do so, but shall not do so if,
> (a) it does not contain a drug or drugs in the same amounts of the same or similar active ingredients in the same or similar dosage form as the other product; or
> (b) the prescribed conditions under clause 14(1)(a) have not been met.
> Similar active ingredients
> (4) In clause (3)(a),
> "similar active ingredients" means different salts, esters, complexes or solvates of the same therapeutic moiety.
> Ceasing to be interchangeable
> (5) The executive officer may remove a product's interchangeability designation,
> (a) where authorized to do so under subsection 12.1(8);
> (b) if one of the conditions prescribed under clause 14 (1) (b) has been breached; or
> (c) in any case, if he or she considers it

advisable in the public interest to do so.

Modification

(6) Any modification of a designation takes place on the effective date of its being designated in the Formulary as a modification.

Non-application of SPPA

(7) The *Statutory Powers Procedure Act* does not apply to anything done by the executive officer under this Act.

Transitional

(8) A product that was interchangeable with another product immediately before October 1, 2006 continues to be interchangeable with that product until its interchangeability designation is removed by the executive officer.

Section 1.1 authorizes deeming different molecules as interchangeable if it is in the public interest to do so and the active ingredients of the drugs are "similar" (defined as "different salts, esters, complexes, or solvates of the same therapeutic moiety"). (Unfortunately, "therapeutic moiety" has no precise legal definition, but a variety of potentially conflicting definitions in medical and public health literature). To avoid manufacturer challenges the government has designed the provision such that it could be characterized as an "administrative decision" expressly exempted from the procedural safeguards of the *Statutory Powers Procedure Act*.

Clearly the provision is designed to provide the province with additional leverage over the pricing of patented pharmaceuticals prior to the appearance of generic substitutes.

[5] *Ontario Drug Benefit Act*, Ontario Regulation 201/96, Amended to O. Reg. 355/06, ss. 12(1)(i).

[6] According to the Ontario Guidelines for Economic Analysis of Pharmaceutical Products, published by the Ontario Ministry of Health and Long-Term Care, August 1994 (at page 2), the Economic Analysis to be submitted (also referred to as a full cost-effectiveness analysis) includes the following 7 components:

(1) All relevant costs and clinical outcomes will be included in the analysis and valued sensibly;

(2) The analysis is incremental in that it utilizes the difference in costs and in clinical outcomes between one specific pharmaceutical product and another product or other alternate therapy (Detsky & Naglie, 1990);

(3) The stream of both costs and the clinical outcomes, no matter how they are measured, are discounted over time. Although there is controversy about the most appropriate rate, the most commonly used discount rate at present is 5% per year.

(4) The perspective of the decision maker is clearly identified. The societal perspective that incorporates both direct and indirect costs and clinical outcomes should be presented in a disaggregated fashion. That is, an effort should be made to construct the analysis in such a manner as to present the direct medical costs attributed to the provincially funded healthcare system as a separate analysis from the societal perspective. The societal perspective will include all direct costs, including those borne outside the healthcare system, and indirect costs such as lost wages;

(5) All sources of data for the baseline analysis are clearly identified;

(6) Sensitivity analyses are used to assess the robustness of the qualitative conclusions and identify areas where further research is needed to more precisely estimate the values of those variables to which the result is sensitive; and

(7) The incremental cost-effectiveness ratios referred to in item 2 above are compared with other such incremental cost-effectiveness ratios for other interventions in order to determine the relative economic attractiveness of investing in this pharmaceutical product as opposed to other healthcare interventions. This requires similar units of measurement for both costs and clinical outcomes. Most current economic analyses present clinical outcomes in terms of mortality figures with or without health utilities. A common approach is to present costs in dollars and clinical outcomes in quality-adjusted life years gained.

The Guidelines go on to outline a suggested format of the cost-effectiveness analysis (at page 3) and also provide a helpful checklist of information that reviewers will be seeking (at Table 1).

[7] According to the Ontario Guidelines for Drug Submission and Evaluation, Ministry of Health and Long-Term Care, September 2000, the Financial Impact Analysis should include:

(1) Yearly expenditures (drug costs only) for the product under consideration (excluding up-charge and professional fees);

(2) Expenditures should be projected for three consecutive 12-month periods, for each individual drug product (i.e. strength and dosage form). The assumptions underlying the forecast should include: (i) summary of potential market size, rate of growth, and extrinsic factors that may affect market size; (ii) initial market capture and how entry impacts existing Formulary/CDI product utilization; (iii) estimate of the average claim cost and number of claims underlying forecast; and (iv) anticipated changes, including generic entry or the entry of new competitor drugs, that may affect market share projections;

(3) A description of the changes in the rate of uptake of the product, projected growth targets, as well as growth in the overall market expected; and

(4) A description of the net effect on other Formulary/CDI alternatives.

[8] CADTH has also published guidelines for CDR reviewers, and on an ongoing basis continues to publish technology reports, technology overviews, and bulletins on emerging health technologies.

[9] What amounts to abuse – Section 65(2)

(2) The exclusive rights under a patent shall be deemed to have been abused in any of the following circumstances:

(a) [Repealed, 1993, c 44, s. 196]

(b) [Repealed, 1993, c 44, s. 196]

(c) if the demand for the patented article in Canada is not being met to an adequate extent and on reasonable terms;

(d) if, by reason of the refusal of the patentee to grant a licence or licences on reasonable terms, the trade or industry of Canada or the trade of any person or class of persons trading in Canada, or the establishment of any new trade or industry in Canada, is prejudiced, and it is in the public interest that a licence or licences should be granted;

(e) if any trade or industry in Canada, or any person or class of persons engaged therein, is unfairly prejudiced by the conditions attached by the patentee, whether before or after the passing of this Act, to the purchase, hire, licence or use of the patented article or to the using or working of the patented process; or

(f) if it is shown that the existence of the patent, being a patent for an invention relating to a process involving the use of materials not protected by the patent or for an invention relating to a substance produced by such a process, has been utilized by the patentee so as unfairly to prejudice in Canada the manufacturer, use or sale of any materials.

[10] Section 66(1) on being satisfied that a case of abuse of the exclusive rights under a patent has been established, the Commissioner may exercise any of the following powers as he may deem expedient in the circumstances:

(a) he may order the grant to the application of a licence on such terms as the Commissioner may think expedient, including a term precluding the licensee from importation into Canada any goods the importation of which, if made by persons other than the patentee or persons claiming under him, would be an infringement of the patent, and in that case the patentee and all licensees for the time being shall be deemed to have mutually covenanted against that importation;

(b) [Repealed, 1993, c. 44, s. 197]

(c) if the Commissioner is satisfied that the exclusive rights have been abused in the circumstances specified in paragraph 65(2)(f), he may order the grant of licences to the applicant and to such of his customers, and containing such terms, as the Commissioner may think expedient;

(d) if the Commissioner is satisfied that the objects of this section and section 65 cannot be attained by the exercise of any of the foregoing powers, the Commissioner shall order the patent to be revoked, either forthwith or after such reasonable interval as may be specified in the order, unless in the meantime such conditions as may be specified in the order with a view to attaining the objects of this section and section 65 are fulfilled, and the Commissioner may, on reasonable cause shown in any case, by subsequent order extend the interval so specified, but the Commissioner shall not make an order for revocation which is at variance with any treaty, convention, arrangement, or engagement with any other country to which Canada is a party; or

(e) if the Commissioner is of opinion that the objects of this section and section 65 will be best attained by not making an order under the provisions of this section, he may make an order refusing the application and dispose of any question as to costs thereon as they thinks just.

[11] In a fundamental and now effectively irreversible policy decision, the Board has elected to include both patented and unpatented therapeutic substitutes in developing a domestic "value" range for assessing the initial price of new patented medicines. Arguably if the statutory objective is to prevent excessive returns on a patent, the prices of unpatented substitutes should not be relevant.

[12] The Board's discussion paper, copies of written submissions, and summaries of consultation meetings conducted in late 2006 are posted on the Board's website: www.pmprb.cepmb.gc.ca.

[13] BIOTEC Canada did contend in a written submission that the PMPRB's scheme was not suited to vaccines because these products are subject to block large scale competitively tendered purchases by government departments for public health purposes - a variant of the monopsony power discussion above.

[14] Arguably this proposal could make the PMPRB ineffective in relation to constraining Canadian prices leaving that job up to the Provinces in any event.