REDUCING PROVINCIAL DRUG PLAN COSTS THROUGH REGIONAL POOLED-PURCHASING AGREEMENTS

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By
Matthew Stephen Jurczak
Regina, Saskatchewan
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Matthew Stephen Jurczak, candidate for the degree of Master of Public Policy in Health Systems Research, has presented a thesis titled, *Reducing Provincial Drug Plan Costs Through Regional Pooled-Purchasing Agreements*, in an oral examination held on August 8, 2012. The following committee members have found the thesis acceptable in form and content, and that the candidate demonstrated satisfactory knowledge of the subject material.

External Examiner: Dr. Wallace Lockhart, Faculty of Business Administration

Supervisor: Dr. Gregory P. Marchildon, Johnson-Shoyama Graduate School

Committee Member: Dr. Bruno Dupeyron, Johnson-Shoyama Graduate School

Chair of Defense: Dr. Carrie Bourassa, First Nations University of Canada
ABSTRACT

Canada’s provincial health ministries are facing rising provincial drug plan costs that can be attributed to rising medication costs and increasing drug plan claims. Provinces currently employ a collection of policy tools that have not proven to be effective in reducing the cost of these essential programs. Current policy tools are generally designed and implemented unilaterally and are not conducive to inter-provincial collaboration. The result is that small provinces are hampered in their ability to lower drug costs as manufacturers will first attempt to set price levels in larger provinces. A new policy tool is needed that will enable both large and small provinces to reduce drug costs as drug plan utilization continues to increase.

Creating purchasing pools with multiple provincial participants could be a promising model that would enable members to maximize supplementary volume rebates from manufacturers. New Zealand’s national purchasing pool lowered drug prices between 21% and 79% less than prices paid in British Columbia for the same products in 2005. Purchasing pools in the United States designed to reduce the cost of state-funded Medicaid pharmacy programs have delivered supplementary rebate rates to their members between 15% and 25%. Assuming that these rebate rates could be applied to purchasing pools in Canada through regional purchasing pools in Western and Atlantic Canada, approximately $562 million could be saved in Canada every year. Canadian agreements, similar to American purchasing pools, would preserve provincial autonomy over the formulary listing process and drug plan administration. In addition, regional purchasing pools in Canada could be integrated with existing federal and provincial drug regulatory bodies.
ABSTRACT

Regional purchasing pools in Western and Atlantic Canada could form the foundation of a new prescription drug pricing and negotiation regime that could stabilize drug prices in participating provinces. The purchasing pools could also improve transparency and accountability by aligning the commitment to cost control of participating provinces.
ACKNOWLEDGMENTS

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CHAPTER 1 - INTRODUCTION

Introduction

Prescription drug programs funded by provincial governments play a crucial role in provincial health systems by facilitating access to the newest and most effective drug therapies. This objective is achieved through reimbursement or subsidy schemes that offset the full consumer price of prescription drug products. Drug plan beneficiaries can include seniors, low-income residents, and social assistance recipients, as well as other groups such as children and people who incur high drug costs as a result of catastrophic illnesses. While some provinces have designed their drug plans to provide for low-income residents and seniors, other provinces have chosen to expand the scope of their drug plans to include catastrophic drug coverage and, in some cases, universal access to the drug plan. By increasing access to low-income residents and the uninsured, provincial drug plans create more equal access to these therapies and treatments.

In 2009, public drug plans accounted for 45% or $11.4 billion of total prescription drug spending, private drug plans accounted for 37% or $9.4 billion, and out-of-pocket expenditure accounted for 18% or $4.6 billion (CIHI 2010). The majority of Canadians who are eligible for coverage under a publicly funded prescription drug plan receive coverage from provincial plans with approximately 9 million beneficiaries. There are a further 1 million beneficiaries of federal drug plans offered to members of the Canadian Forces, the RCMP, Veterans, federal inmates and beneficiaries of the Non-Insured Health Benefits Program (Competition Bureau 2008). With the majority of eligible beneficiaries relying on provincial plan coverage, cost pressures on provincial drug plans can have a profound effect.
CHAPTER 1 - INTRODUCTION

When faced with rising drug plan costs, the most direct way to cut costs is through the scaling back of plan benefits or reducing pharmacy services. This approach will leave beneficiaries with less coverage for prescription drug expenses as well as fewer clinical services provided by pharmacists. This outcome is far from desirable; therefore existing provincial cost control policies tend to focus on reducing the consumer cost of drug products, so their drug plans will spend less money reimbursing medication purchases.

Reducing wholesale drug costs

The focus of this study will be on reducing the wholesale drug cost of prescription drugs that are subject to reimbursement under provincial drug plans. Wholesale drug cost is an area where provinces can agree to a common policy of reducing drug plan costs. Focusing on the wholesale drug cost will allow for drug plan cost reductions without adversely affecting access and services provided by pharmacies. A reduction in the wholesale drug cost will lead to a reduction in the final consumer cost, which means that provincial drug plans will reduce the reimbursement cost of each drug plan beneficiary. Below is a basic formula that shows where wholesale cost fits into the final consumer cost of a prescription. The final consumer cost is incurred by a provincial drug plan.

\[
\text{Wholesale Drug Cost} + \text{Retail Drug Cost} \ (\text{Retail Mark-up} \ + \ \text{Dispensing Fee} \ + \ \text{Professional Allowance}) = \text{Final Consumer Cost}
\]

Wholesale drug costs are the most logical part of the final consumer cost to reduce. Other elements, such as dispensing fees and mark-ups, can vary greatly by province. Reducing prescription drug costs by adjusting mark-ups, professional
allowances, and dispensing fees is problematic, because pharmacy services could be affected. Dispensing fees in particular serve as policy tools in some provinces to ensure that pharmacy services remain accessible in rural and remote regions. A reduction in dispensing fees could mean that pharmacists would reduce the number of consultations that they provide to patients, in particular those with more complex health conditions requiring them to take several medications simultaneously.

**Dispensing fees and professional allowances**

Dispensing fees paid to pharmacists vary by province, sometimes within different regions of the same province. As a result, they are not a suitable area to target in order to reduce drug plan costs. In Ontario, for example, pharmacists dispensing to beneficiaries of the Ontario Drug Benefit Program are paid $7 per prescription. However, beneficiaries who are considered higher-income seniors eligible for coverage must pay $6.11 of the dispensing fee (Ontario 2011). Ontario is also increasing dispensing fees as part of its strategy to ensure that pharmacies remain operational in rural and remote regions of the province. The revised fee schedule for 2011 allows for rural pharmacies to charge the Ontario government an additional $5 for prescriptions eligible for coverage by a public drug plan. By April 2014, dispensing fees for prescriptions covered under the public drug plan will be allowed to increase to a range of $8.83 to $13.25.

By comparison, Saskatchewan allows for a maximum dispensing fee of $9.85 (Saskatchewan Ministry of Health 2012). New Brunswick allows for a range of dispensing fees to be charged to patients paying out of pocket and to drug plan
beneficiaries. The fees range from $9.40 for products whose ingredients cost up to $99.99 at the lower end to a maximum fee of $162 for drug products whose acquisition cost is greater than or equal to $6,000 (New Brunswick Department of Health 2010b). Focusing on reducing public drug plan costs through the reduction of dispensing fees would be problematic, because dispensing fees in different provinces can serve different policy goals. In Ontario, these fees are used to provide extra compensation to pharmacists in rural areas where sales volumes are likely lower compared to urban pharmacies.

Dispensing fees could also see large fluctuations among different provinces in the future as a result of the changing role of pharmacists, and the breadth of services they can provide. For example, some provinces have extended the ability to prescribe medication to pharmacists (Grootendorst et. al 2008). In Ontario, pharmacists can now bill the Ontario Health Insurance Plan using a fee for service model for patients eligible for the MedsCheck program. This program pays pharmacists a $50 fee to provide patients with chronic health conditions (those taking three or more medications simultaneously) with a medication consultation (Grootendorst et. al 2008). Therefore with more provinces expanding pharmacists’ scope of practice to meet patient needs, fees could increase to reflect the additional services that pharmacists provide. Cost savings attributed to an expanded scope of practice for pharmacists will likely be the result of less reliance on more expensive physician services where medication consultation is required.

The final consumer cost of drugs paid by both government and out-of-pocket consumers for generic drugs in Canada can sometimes include professional
allowances. In a competitive generic drug market, manufacturers pay these incentive allowances to pharmacists who agree to exclusively stock a particular generic brand in their pharmacy. These additional fees are built into the final consumer cost and are passed onto consumers. It is believed that in Ontario, these professional allowances represent between 40% and 60% of the final consumer cost (Grootendorst et al. 2008).

When looking at methods for managing prescription drug program costs among a group of jurisdictions, it is difficult to apply policies designed to reduce these fees. Legislation introduced in Ontario in 2006 banned professional allowances in order to reduce costs for provincial drug programs, out-of-pocket consumers and private drug plans (Ontario 2006). Ontario’s approach has been the most aggressive in Canada in this regard. In July 2011, Newfoundland and Labrador became the latest province to address the issue of professional allowances. Not all provinces agree that eliminating professional allowances is a viable policy, as these allowances can represent a substantial portion of a community pharmacy’s revenue (Grootendorst et al. 2008). Pharmacies with lower sales volumes in rural areas could be less economically viable without professional allowances. In addition, shifting the cost burden to government away from professional allowances and toward higher dispensing fees can be problematic for drug programs where seniors and other beneficiaries are required to cover a proportion of the total cost of the dispensing fee. In this particular case, health ministries are simply passing on the cost to plan beneficiaries through an out-of-pocket expense. It is unlikely that many
provinces will be able to agree on a standard policy regarding professional allowances.

**Drug plan utilization trends**

Drug plan utilization trends reveal that the number of reimbursable prescriptions is increasing. When we consider average prescription costs, we can see that while some provinces show slower growth in average prescription costs, these costs are not decreasing. This trend demonstrates that current cost control policies employed at the provincial level may not be adequate to reduce drug plan costs as the average number of prescriptions per beneficiary continues to increase.

In this study, cost control is measured by a decrease in the average drug cost per reimbursable prescription under the drug plan. In order to put drug plan costs into perspective, plan utilization trends should also be considered. It is important to consider that as drug plan utilization continues to increase, it has led to dramatic cost increases in some provinces more than in others. Therefore it is important to recognize that there are greater incentives in some provinces to pursue new cost control policies than in others.

Figure 1.1 shows drug plan utilization trends from 2005 to 2010 in select provinces. Drug plan utilization was measured as the average number of prescriptions for every drug plan beneficiary. Common to all provinces is an increase in the average number of prescriptions per drug plan beneficiary. This signifies a growing reliance on provincial drug plan benefits. In Atlantic Canada, New Brunswick saw an increase of 36% in the average number of prescriptions per
beneficiary. Nova Scotia saw a modest increase in the number of prescriptions of only 4%. In both provinces, the increase in prescription volumes has been attributed to an aging population (New Brunswick Department of Health 2010, Nova Scotia Department of Health 2010). In Saskatchewan, the number of prescriptions per drug plan beneficiary remained fairly low, relative to other provinces, and saw an increase of only 14%. This lower figure could be attributed to the broad access to the Saskatchewan drug plan, which includes a special plan for children and access for younger provincial residents. For example, young children often require fewer prescriptions than seniors in the province, which decreases the average number of prescriptions for each drug plan beneficiary. (Saskatchewan 2011). British Columbia experienced a sharp increase in the number of prescriptions per beneficiary with a growth rate of 36%.
Figure 1.1: Average number of prescriptions per drug plan beneficiary
While all provinces saw increases in drug plan utilization, the same cannot be said of drug plan cost trends. Figure 1.2 provides an overview of average wholesale drug costs for prescriptions reimbursable under provincial drug plans in select provinces. British Columbia saw a large decrease in its average prescription cost at a rate of 10% from 2005 to 2010; however, the cost began to increase again in 2010. This could suggest that cost control in British Columbia through rebates and the Reference Drug Program had at one point been effective at managing costs. Saskatchewan saw a 17.27% increase in its average wholesale cost despite some growth in utilization. Potential explanations of this trend include the use of higher cost drug products in Saskatchewan or less effective cost control through the province’s restricted formulary and tendering process. Nova Scotia saw costs increase by 6% while also experiencing modest growth in utilization. New Brunswick saw a 4.5% reduction in costs. The overall trend tells us that provinces struggle to control drug costs when they act unilaterally and that existing policy tools need further enhancement. To better understand why current policy tools are failing to reduce costs, it is important to understand the cost drivers that continuously increase public drug plan expenditure.
Figure 1.2: Average wholesale drug cost per prescription
Cost drivers

The drivers of pharmaceutical expenditure growth are diverse and have been identified by the Canadian Institute for Health Information as including population growth, population aging, general inflation, changes in price, changes in volume, and changes in drug therapies used to treat certain conditions (CIHI 2011b). Between 1998 and 2007, prescription drug expenditure in Canada grew on average by 10.1% per year (CIHI 2011a).

Currently, the most significant cost driver is the increasing volume of prescriptions, which increased costs by an annual average rate of 6.2% across Canada between 1998 and 2007 (CIHI 2011a). This increase in volume can be attributed to several factors, including more prescriptions for treating chronic diseases, new treatment guidelines for certain illnesses, and product innovation. The majority of cost growth for the 1996 to 2002 period in British Columbia can be attributed to the increased use of drugs to treat a variety of chronic conditions among different age segments of the population. In the past, one pharmaceutical product was generally prescribed to manage asthma. By 2002, physicians in British Columbia were prescribing two products simultaneously to treat the same condition (Morgan 2005). Innovation and new treatments also impose upward pressure on drug plan costs. When innovation or new treatment techniques improve outcomes, costs usually increase and higher priced drugs tend to be tolerated by policy makers (Morgan 2005).

Academic and government studies often cite an aging population as a contributing factor to burgeoning drug costs (Patented Medicine Prices Review...
Between 1996 and 2002, public and private drug expenditure combined increased at an average annual rate of 10.8% in British Columbia. The aging provincial population could only account for 1 percentage point of this expenditure growth (Morgan 2005). This growth rate is consistent with Canada-wide figures that suggest that between 1998 and 2007, Canada’s aging population only accounted for 1% of cost growth (CIHI 2011b). Population aging is a relatively modest driver of drug plan costs. Policy decisions related to public drug plans have been found to have a more profound effect on expenditure growth during the same period (Morgan 2011).

Grootendorst and Racine (2005) concluded that efforts by all of the provinces in the 1990s to shift public drug coverage away from higher-income seniors towards lower-income seniors were not particularly successful. The rationale for these program changes was to provide better access to drug therapies for lower-income seniors. Despite a greater emphasis on “needs-based” coverage, it is apparent that higher-income seniors continue to gain access to publicly funded, higher cost medications, likely through better advocacy from their physicians (Grootendorst and Racine 2005).

Cremieux (2005) studied six Canadian provinces with the highest level of drug expenditure in an attempt to measure the cost of improving health outcomes. Cremieux determined that a higher rate of per capita drug spending will decrease infant mortality rates and improve the health status of provincial residents who are 65 or older. Research examining regional medication consumption among seniors found considerable variation across Canada, which could not be definitively
explained (Hogan et al. 2003). The prevalence of common clinical conditions could not explain regional variations in medication usage. However, the rate of institutionalization within a province’s health system was correlated with higher medication use. Hogan et al. (2003) found that the rate of institutionalization for patients across Canada was similar and could not explain higher medication use in Canada’s Maritime provinces compared to the Western Provinces.

American studies focusing on population aging as a cost driver of increasing drug expenditures tend to focus on the Veterans’ Health Administration (VHA). The agency has shown that a closed formulary, introduced in 1997, has shifted prescriptions to a select group of drugs, which has enabled price reductions. Furthermore, the successful implementation of a national closed formulary by the VHA has shown that it is possible to control drug costs for a demographic requiring advanced and chronic care (Huskamp, Epstein, Blumenthal, 2003). This method of cost control has enabled the VHA to continue to offer advanced and innovative drug treatments while ensuring that health outcomes remain consistent for their patients (Sales, et al. 2005).

It is important to recognize that the primary cost driver in Canada is increasing prescription volumes attributed to the treatment of chronic disease, innovation, and new clinical guidelines. We have seen that current policy tools are not able to cope with cost drivers; therefore examining policies in other jurisdictions could provide insight into additional policies that could reduce the cost of provincial drug plans. Public drug plans in the United States provided through state Medicaid benefits have recently adopted pooled-purchasing as a strategy to
reduce costs. It is worth exploring the possibility of applying this policy tool in Canada.

Reducing costs through pooled-purchasing: applying the American experience in Canada

Interprovincial pooled-purchasing agreements designed to reduce the wholesale price of prescription drugs have not been widely explored as a policy tool in Canada. The interprovincial purchasing pools proposed in this thesis will focus on bulk purchasing for drug products covered under provincial drug plans. Prescription drugs that are prescribed in hospitals in some Canadian provinces are currently procured through bulk purchasing. New Brunswick collaborates with Prince Edward Island when it comes to hospital drug purchases. In British Columbia, all hospital drug purchases have been pooled through BC Health Shared Services. This organization collaborates to pool BC hospital drug purchases with hospital purchases in Alberta and Saskatchewan (Health Council of Canada 2011, British Columbia Ministry of Health 2012).

Regional purchasing pools intended to reduce the cost of outpatient drug treatments that are covered by provincial drug plans and that are not administered in hospitals have not been implemented. A purchasing pool could replace some of the existing policy tools employed at the provincial level to reduce drug costs. These existing tools include restricted formularies, tendering, generic price caps, reference pricing, and competitive agreements.

Purchasing pools are policy tools that have been successfully employed in the United States to allow their members to seek supplemental rebate rates from drug
manufacturers that are covered under state Medicaid pharmacy programs. They also allow state governments to maintain control over their formularies and the strategic direction of the pharmacy program.

There are two major similarities between provincial prescription drug plans funded by Canada’s provinces and state Medicaid pharmacy benefit programs. First, both systems operate within a federal state. That is to say that in both countries, the federal government plays a role in regulating prices. In Canada, the Patented Medicine Prices Review Board only regulates the price of branded prescription drugs. In the United States, the federal Department of Health and Human Services negotiates rebate rates with manufacturers through the Medicaid Drug Rebate Program. In return, manufacturers receive approval from the federal government to make their products available for use by Medicaid beneficiaries. However, an additional stipulation is that the manufacturer will offer the same price level and rebates to the Veterans Health Administration for use within that health system. All rebates are shared between the federal and state levels of government (Center for Medicaid and CHIP Services 2010).

The second similarity between Canadian provincial drug plans and Medicaid pharmacy plans is the level of autonomy provincial and state governments have to create their own formularies. Formularies for both programs are restricted, which means that state and provincial governments have the ability to control which specific drug products are eligible for reimbursement under the drug plan. In the United States, restricted formularies provide state governments the ability to negotiate directly with drug manufacturers for supplemental rebates that are above
and beyond those obtained by the federal Department of Health and Human Services.

**Potential cost savings**

Purchasing pools have enabled other jurisdictions to successfully reduce the cost of publicly funded prescription drug programs. New Zealand’s national formulary has enabled that country to maximize manufacturer discounts for commonly prescribed drug products. In 2005, New Zealand paid between 21% and 79% less for the exact same commonly prescribed drug products than British Columbia (Morgan et al. 2007). In the United States, the state of Iowa obtained supplementary rebates of approximately 25% from drug manufacturers for its Medicaid pharmacy program. The total prescription volume for the program was approximately 5 million prescriptions (Iowa 2007). By comparison, a western regional purchasing pool for provincial drug plans consisting of British Columbia, Alberta, and Saskatchewan would have a prescription volume of approximately 52 million prescriptions (Alberta Health and Wellness 2010; British Columbia Ministry of Health 2010; Saskatchewan Ministry of Health 2010). A regional purchasing pool in Atlantic Canada, consisting of only Nova Scotia and New Brunswick, would have a combined volume of approximately 5 million prescriptions (Nova Scotia Department of Health 2010, New Brunswick Department of Health 2010). Drawing on experiences in other jurisdictions, it is reasonable to assume that Canadian provinces have the ability to reduce drug plan costs using purchasing pools. Based
on the extent of cost savings in other jurisdictions, it is reasonable to project that provinces could receive a supplementary rebate rate of 25%.

If a 25% volume rebate could be obtained from drug manufacturers, a Western purchasing pool could see a combined total drug plan cost savings of $471 million for British Columbia, Alberta, and Saskatchewan. An Atlantic regional purchasing pool of only New Brunswick and Nova Scotia could see a combined drug plan cost savings of $91 million. These cost savings are significant when we consider that they are achieved without addressing drug plan cost drivers and solely focus on maximizing potential volume rebates through negotiation with manufacturers.

**Expected outcomes of pooled-purchasing**

A pooled-purchasing model is designed to maximize volume rebates through the creation of larger markets. Volume rebates deal with the most significant cost driver, prescription volume growth, which increases costs an average of 6.2% across Canada on an annual basis (CIHI 2011a). Cost increases associated with innovation are difficult to control through multi-jurisdictional agreements, as the listing of breakthrough and innovative products rests with individual health ministries, which may choose to incur higher costs in order to address local health needs in their respective provinces. It is important to note that adopting a purchasing pool as an additional provincial policy tool would lower wholesale drug prices, but will not address all of the cost drivers that are leading to burgeoning program spending. For example, pooled-purchasing does not address issues related to appropriate drug use. The model assumes that clinicians will address the issue of
appropriate prescribing. The model saves money as volumes continue to rise through rebates. Additionally, the model does not provide a means to address the use of more expensive products, but rather works to reduce the cost of these products as they are prescribed more often.

Administrative efficiencies could also be generated through a common listing process that would be used by all purchasing pool members. This would also create greater transparency, because it would prevent some provinces from negotiating confidential rebates while leaving other provinces to pay higher drug prices. Finally, a purchasing pool would also align provincial drug plan objectives and impart a consistent standard of controllership as well as an equal commitment to ongoing cost control.

**Study design**

This study will estimate the cost savings that could be realized through supplemental volume rebates negotiated through a purchasing pool. Rebate rates are estimates that were taken from purchasing pools in the United States that operate within a similar regulatory environment as Canadian public drug plans. This study is a departure from the available literature in that it compares Canadian provincial drug programs with American state Medicaid pharmacy programs. In addition, this study proposes regional purchasing pools for provincial drug plans.

The level of analysis will be at the provincial government level. Examining public drug program costs at the provincial level is crucial, as pricing policies tend to reflect a province’s willingness to pay for a particular drug product. For example,
CHAPTER 1 - INTRODUCTION

the recent trend of imposing price caps on generic drugs suggests that some provinces are only willing to pay lower prices for these products out of a desire to decrease the overall cost of the publicly funded drug plan in response to burgeoning costs.

Data from selected Canadian provinces were used to determine the average drug cost per prescription from 2005 until 2010. Manitoba, Quebec, Prince Edward Island, and Newfoundland were excluded from the study due to unavailable data. The average wholesale drug cost per prescription was obtained by dividing the total acquisition cost of all reimbursed drug products by the number of pharmacy benefit claims. Therefore only active drug plan beneficiaries covered by provincial plans were counted in the study rather than all eligible provincial residents, some of whom may not have made pharmacy reimbursement claims. Professional fees, which vary by jurisdiction, are also not included in the average wholesale drug cost figures.

The next chapter will provide an overview of current policy tools employed by the provinces to control prescription drug costs, and will describe how these policies are applied. Chapter 3 will discuss the evolution of the pooled-purchasing model and policy lessons from abroad that can be applied in Canada. Estimated cost savings to public drug plans will be examined in Chapter 4. The average wholesale drug cost for each province studied will be estimated with volume rebates of 15% and 25%. These price levels will be compared to the price level for Ontario, which traditionally receives the lowest cost from manufacturers. Chapter 5 will detail how a purchasing pool can be implemented in Canada. Since prescription drug price
regulation is split between both the federal and provincial levels of government, provincial level purchasing pools will need to align with the mandates of both the Common Drug Review and the Patented Medicine Prices Review Board.
Provinces currently have a selection of policy tools available to them to reduce the wholesale price of drug products that are approved for use by the Common Drug Review. The goal of these policies is to reduce the cost of both branded and generic products. Cost reductions can be achieved through the reduction of the wholesale cost of drug products: the cost that pharmacies pay to manufacturers. In the previous chapter, we saw that the cost of drug products to consumers can also be lowered through the regulation of retail markups, professional fees, and dispensing fees. The provincial policies discussed in this chapter are designed to reduce the wholesale cost of drug products before the addition of dispensing fees, markups and professional fees. The goal of these policies is to maximize clinical outcomes while keeping costs as low as possible for both the consumer and the provincial drug plan. Lower consumer costs for prescriptions translate into broader access to drug products for uninsured provincial residents paying out of pocket. For health ministries, lower consumer costs should translate into less money spent reimbursing or subsidizing drug plan beneficiaries, allowing for a reallocation within or outside the health budget.

The previous chapter made the distinction between federal and provincial responsibilities in the area of prescription drug pricing. Through the Patented Medicine Prices Review Board, the federal government regulates patented drug prices by ensuring that Canadians pay the median price derived from a list of price levels paid by a select group of industrialized countries for the same product. The federal government does not play a role in regulating generic drug prices. Generic drug pricing is left to the provinces. Provinces also have the option of seeking
further price reductions for patented products beyond the price level set by the federal government.

Provincial governments currently act unilaterally to reduce the wholesale price of drugs that are reimbursable under the drug plan in their respective provinces. The implication is that provinces with larger populations and more drug plan beneficiaries have greater leverage when it comes to negotiating prices with manufacturers due to larger prescription volumes. Smaller provinces find themselves at a disadvantage when it comes to their ability to negotiate lower prices. In particular, their ability to reduce prices for products made by one manufacturer is rather limited.

Table 2.1 provides an overview of all current provincial pricing policy tools employed across Canada. It is interesting to note that larger provinces tend to employ more policy tools to manage their drug costs than smaller ones. A possible explanation for this phenomenon is a more concerted effort in large provinces to control drug plan costs.
### Table 2.1: Prescription drug pricing policy tools by province

<table>
<thead>
<tr>
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<th>BC</th>
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CHAPTER 2 – CURRENT POLICY TOOLS FOR CONTROLLING PROVINCIAL DRUG PLAN COSTS

Restricted formulary

Provinces possess the legal and administrative autonomy to control which drug products will be listed on their respective formularies. These formularies determine which products are eligible for reimbursement under any given provincial drug plan. A health ministry can use its regulatory power to restrict the formulary to one drug or only a handful of drug products in each therapeutic category. Higher demand for a smaller group of products in each therapeutic category provides the ministry with more leverage to facilitate price negotiations with drug manufacturers. This ability is a prerequisite for all other policy tools to function effectively.

There is a tendency for provinces to follow the recommendations of the Common Drug Review. Every Canadian province, except for Quebec, participates in that body's joint review process. In 2011, the provinces participating in the Common Drug Review chose to follow 90% of that body's formulary-listing recommendations (Common Drug Review 2011). It is possible that if a province chooses not to follow the Common Drug Review’s recommendations, public pressure could be exerted on the ministry.

Tendering

In addition to restricted formularies, tendering is a policy tool that is also common to all provinces. A tender is an agreement that is negotiated between a provincial health ministry and a drug manufacturer that regulates the prices of specific prescription drug products for a given period of time, usually for a period of
several years. In order to receive a price reduction, a health ministry must agree to restrict, through the formulary, the number of reimbursable drug products for each therapeutic category. The idea is that manufacturers will provide the ministry with a lower price in return for an exclusive listing on the formulary in that drug product’s therapeutic class.

While tendering is used in concert with a restricted formulary across all of the provinces, the extent to which it is used can vary. For example, some provinces, like British Columbia, use tendering for specific drug products whereas Saskatchewan uses tendering across all therapeutic categories of drugs (British Columbia Ministry of Health Services 2010, Saskatchewan Ministry of Health 2010). Tendering can be a versatile policy tool in that it can be used to regulate both generic and patented drug prices. Ontario, British Columbia, and Alberta use tendering exclusively for specialized branded products when there is only one manufacturer of that product (Alberta Health and Wellness 2009, Silversides 2009). Alberta is currently implementing a new tendering process for newly developed branded products. In the event that these new products fail to improve population health outcomes, the manufacturer will be required to reimburse the Alberta government for each administered drug treatment that used the new product. This particular condition attached to the tendering process is designed to improve the rate of appropriate prescribing (Alberta Health and Wellness 2009). An additional benefit of this policy is that it makes drug manufacturers financially accountable when their products fail to deliver on expected health outcomes submitted to the province’s formulary-listing committee.
CHAPTER 2 – CURRENT POLICY TOOLS FOR CONTROLLING PROVINCIAL DRUG PLAN COSTS

While tendering has allowed provinces to consistently reduce costs, Canada’s Competition Bureau has warned that, over time, tendering could discourage additional generic drug manufacturers from entering the market. In the long term, this could mean there could be fewer generic products available to patients (Competition Bureau 2008). In addition to fewer generic products being developed, tendering also has been observed to discourage existing generic manufacturers from attempting to bid on government tenders over time, leading to less competition in the market. Less generic competition could potentially undermine attempts by public prescription drug programs to maximize cost savings (Hollis, 2009).

Saskatchewan is unique among the provinces in that it relies exclusively on tendering to control drug costs. The province’s tendering process involves controlling costs through greater use of interchangeable drug products, which are defined as different brands of a particular medication that are equivalent in terms of their therapeutic effectiveness (Saskatchewan Ministry of Health 2010). The costs for interchangeable drug products are controlled through the province’s tendering process by dividing them into two categories: Low Cost Alternative products and Standing Offer Contract products. Low Cost Alternative products are listed on the provincial formulary when manufacturers agree to cap the maximum price of those drug products for a defined period of time that is outlined in the tender agreement. The price level is set between the wholesale cost of the drug, excluding dispensing fees, and up to the lowest price of other drug products in the interchangeable group. Saskatchewan’s second product category, Standing Offer Contract products, involves
tendering drugs in a specific therapeutic category to obtain the lowest possible price from a manufacturer. The manufacturer who offers the lowest price for their product will see it used almost exclusively in its therapeutic category.

Provinces with larger populations are generally able to use tendering more effectively to control their drug plan costs. Ontario and Quebec, for example, are usually the first provinces to negotiate prices with manufacturers. The reason is that drug companies want to establish the highest possible price level for their product in jurisdictions that have the most market share (Silversides 2009). The result is that provinces with small populations are not able to effectively negotiate with manufacturers until price levels are set in Ontario and Quebec.

**Generic price caps**

Provincial health ministries have the ability to set maximum prices for generic drug products through regulations that cap generic drug prices at a certain percentage of the equivalent patented product price. Ontario was the first province to introduce generic price caps in 1993. Other provinces followed between 2005 and 2011. Some provinces, like New Brunswick, Manitoba and Newfoundland, have resisted introducing price caps, and have instead focused on other policies to lower drug prices to levels comparable to those of other provinces who use generic price caps (Silversides 2009). Table 2.2 provides an overview of current generic drug price caps as a percentage of the price for the equivalent patented product in selected provinces. The table reveals disparities in prices caps as Ontario has regulated generic prices to be much lower than the other provinces. It is interesting
to note that Quebec has the highest price cap, which means that its drug plan is prepared to pay the highest prices for generic drug products. This makes Quebec unique, as there is less financial incentive for the provincial drug plan to promote the use of generic drugs.
Table 2.2: Expected generic price caps by province by 2014

<table>
<thead>
<tr>
<th>Province</th>
<th>British Columbia</th>
<th>Alberta</th>
<th>Ontario</th>
<th>Quebec</th>
<th>Nova Scotia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price Cap Level</td>
<td>35%</td>
<td>45%</td>
<td>25%</td>
<td>56%</td>
<td>40%</td>
</tr>
</tbody>
</table>
Generic price caps as a policy tool are becoming increasingly important as the provinces continue to encourage greater use of generic drug products. Hollis and Law (2004) researched the effects of provincial legislation enacted in all provinces that allows for drug substitution wherever possible on provincial formularies. They found that all provinces, with the exception of Quebec, are moving in the same direction when it comes to generic substitution. The Health Council of Canada (2010) revealed that New Brunswick and Manitoba have the highest rates of generic substitution and 61% of all prescriptions in both hospital and retail markets were generic drugs. Quebec, in contrast, has the lowest rate of generic substitution, at 50%, resulting in higher drug costs.

Price caps are constantly changing, and several provinces have set aggressive targets for reducing generic drug prices. Ontario was one of the first provinces to cap generic drug prices, and, as a result, the province pays some of the lowest prices in Canada for commonly prescribed generic drugs (Hollis 2009). The province’s Transparent Drug System for Patients Act legislated the Ontario government to cap generic drug prices at 50% of the price of the patented equivalent (Ontario 2006). By 2014, the price cap will be reduced further to 25% of the branded equivalent’s price level. Previously, Ontario’s price for generic drugs was 70% of the patented equivalent when there was only one generic alternative and 63% when there were additional alternatives. In recent years, other provinces have started to implement generic price caps to reduce prescription drug costs. Alberta’s Pharmaceutical strategy has implemented price caps on generic products. In 2010, the province capped generic prices at 56% of their branded equivalent. Prior to 2010, Alberta
priced generic products at 75% of the price of the equivalent branded product. In July 2011, Nova Scotia became the latest province to impose generic price caps with prices capped at 75% of the branded equivalent. Generic price caps are effective at lowering drug costs; however, it is unclear how much lower the caps can go. In addition, it is unclear if these price caps will discourage new generic firms from entering the market (Competition Bureau 2008).

Reference pricing

Reference pricing is a cost control policy that involves limiting expenditure by setting a rate of reimbursement for a drug product. When equivalent and interchangeable drug products exist in a market, a reference price is set on the most cost effective product. Public funds will only cover the cost of one drug product in a given therapeutic category up to the reference price. If a consumer wishes to use an alternative product, they will be required to pay for the cost above the reference price level out of pocket. Reference prices can be set using price levels for equivalent products available in the domestic or international markets. Reference pricing has usually been applied in Canada and international jurisdictions in combination with other cost control policies rather than on its own (de Joncheere et al. 2003). The effectiveness of reference pricing is increased when a restricted formulary reduces the number of drug products listed in each therapeutic category.

In Canada, reference pricing has only been applied by British Columbia and was implemented in 1995 through the Reference Drug Program (RDP). The goal was to control the cost of a select group of commonly prescribed high-cost medications,
CHAPTER 2 – CURRENT POLICY TOOLS FOR CONTROLLING PROVINCIAL DRUG PLAN COSTS

which include histamine (H2RA) for treating certain upper gastrointestinal complaints and non-ulcer dyspepsia; nitrates for treating stable angina; non-steroidal anti-inflammatory drugs for osteoarthritis, lower-back pain, myofascial pain syndromes and other inflammatory conditions; and Angiotensin Converting Enzyme and Dihydropyridine Calcium Channel Blockers prescribed for hypertension. An audit of British Columbia’s public pharmacare program showed that prior to the introduction of reference pricing in 1995, approximately 95,000 prescriptions for a high-cost histamine (H2RA) drug product were administered with a daily dosage cost of about $0.94. In the same year, 22,000 prescriptions for a lower-cost histamine (H2RA) were issued at a cost of $0.14 per daily dose. Reference pricing ensured that prescribing shifted to lower-cost products with the same clinical effectiveness.

The Reference Drug Program is not responsible for maintaining the provincial formulary; the program was designed to reduce costs by ensuring that the most cost effective and evidence-based treatments would be covered through the public drug program (British Columbia 1998 and 2002a). The program was designed to prevent drug costs from escalating due to a lack of awareness among physicians of cheaper alternative products of the same clinical effectiveness (British Columbia 1998). Reference prices for the five products were set by examining all equivalent drugs within a therapeutic category available for use in the province to identify the price of the drug that proved to be the most cost effective (British Columbia 2002a).

The main criticism of the Reference Drug Program primarily concerns
patient access to multiple drug products within a particular therapeutic class. Since the inception of the RDP, the Auditor General of British Columbia conducted its own study in 2002, which concluded that patient access to multiple products within a therapeutic class was not being compromised by the RDP, because physicians retained the option to prescribe a non-reference product for their patients that would be fully covered by the pharmacare program (British Columbia 2002a). The report also addressed concerns that the RDP led to poorer health outcomes resulting from costs being shifted away from the pharmacare program toward other areas of the health system. The Auditor General found that in 1998, the rate of hospitalization for medical conditions treated using drug products listed on the RDP had not increased, but had remained constant since 1995 (British Columbia 2002a). The report also found that there was no evidence to suggest that reference pricing was leading to higher costs in other areas of the health system (British Columbia 2002a).

**Competitive agreements**

Ontario has taken a different approach to cost control and has modified its tendering process to include competitive agreements. Through this policy, Ontario is attempting to obtain volume rebates because of its large market size. The Ministry of Health and Long-Term Care compared Ontario’s price levels for certain generic drug products with price levels in the United States, Germany, the United Kingdom, and New Zealand. The ministry determined that imposing a generic price cap will not provide enough of a cost reduction (Ontario 2008). Other provinces have not
adopted competitive agreements for a variety of reasons. Quebec’s “most favoured nation” legislation will enable that province to receive Ontario’s price levels. In 2008, British Columbia negotiated its own volume rebates directly with manufacturers. Alberta has chosen to only adopt generic price caps based on Ontario’s price cap levels (Alberta 2009). Smaller provinces have not adopted competitive agreements as their small markets hamper the negotiation of volume rebates.

The first competitive agreements were signed in Ontario during the 2008 fiscal year. The agreements differ from tenders, because the Ministry of Health and Long-Term Care forces manufacturers to provide rebates based on the market share of their products. Market share is divided into four tiers for determining rebates: less than 10%, 10-40%, 40-70%, and greater than 70% (Ontario 2008). Unlike tenders, competitive agreements in Ontario allow the ministry greater latitude in negotiating prices. For example, if a manufacturer does not offer a low enough market share rebate, then the Ministry has recourse to either adjust the prices it pays for that manufacturer’s other products listed on the formulary, or it can delist products. This differs from a tender, as those agreements typically deal with one product and usually contain contractual obligations that last for several years. In contrast, competitive agreements are more fluid. The effectiveness of some of the competitive agreements has been measured for individual drugs; however, their effectiveness in controlling the total cost of Ontario’s public drug programs is poorly understood (CIHI, 2010).
Supplementing current policies

In the previous chapter, we saw that drug plan utilization was increasing and was mirrored by increasing costs. It is clear that current policy tools used at the provincial level are not adequately controlling drug plan costs. Furthermore, in recent years, unilateral actions by larger provinces to reduce costs have been shown to impede smaller provinces from obtaining the same lower prices. For example, Ontario has attempted to negotiate directly with generic drug manufacturers to receive price discounts due to its larger provincial market (Silversides 2009). This comes at the expense of smaller provinces. Provinces with a smaller market can be hampered, because manufacturers can be reluctant to offer a lower price to Saskatchewan before a price is offered to Ontario or Quebec. In Quebec, the "most favoured nation" legislation compels the government to list drug products on the formulary only when the lowest Canadian price can be obtained. This type of legislation is also used in Newfoundland and Labrador (Health Council of Canada 2010). The effect on all provinces is that drug manufacturers will always seek to establish a price level for their products in a large province in order to be able to sell their products in Quebec at the highest possible price (Silversides 2009). The small provinces of Atlantic Canada, as well as Manitoba and Saskatchewan, will never be in a position to negotiate the lowest possible prices until negotiations are completed in Ontario or Quebec.

Current pricing policies need to be supplemented with a new tool that is more conducive to interprovincial co-operation while at the same time not compromising the ability of larger provinces to negotiate favourable prices. In
addition, any new policy tools need to address the lack of standardized generic drug price regulation, as the utilization of those products has reached a substantial level. For instance, public drug plans in Manitoba and New Brunswick have the highest levels of generic prescription usage with generic products accounting for 61% of reimbursable drug plan prescriptions. Quebec has the lowest level of generic drug usage and only 50% of its drug plan prescriptions are generic products. On average in Canada, generic expenditure only represents about 24% of total public drug expenditure (Health Council of Canada 2008). While generic drugs only represent about a quarter of all spending, there are currently no regulatory bodies for generic drugs that are comparable to federal regulatory bodies that set branded drug prices. The result is that there is little co-ordination among the provinces when it comes to setting price levels for generic drugs.

Aligning provincial interests and allowing everyone to reduce costs could be accomplished through a drug purchasing pool. A pool could lower generic drug costs as well as create the leverage required to negotiate supplemental rebates for branded products that could further reduce costs beyond the level set by the Patented Medicine Prices Review Board. The next chapter will trace the origins of pharmaceutical purchasing pools in developing countries and their subsequent adoption in industrialized countries. There are policy lessons that can be drawn from other jurisdictions. Past experience with purchasing pools in both developing and industrialized countries has shown that aligning prescription drug program objectives is a meaningful outcome of this policy tool.
Purchasing pools formed in other jurisdictions mandated to control the cost of public drug programs offer important lessons for Canada. Drawing lessons from abroad requires selecting jurisdictions whose objectives are similar to our own. Furthermore, when studying policies from abroad, it is important to consider the evolution and factors that led to the development of these policies (Rose 2005). Purchasing pools formed in India, the Organization of Eastern Caribbean States (OECS), New Zealand, and select American states provide the best models to draw lessons from. This chapter will discuss pooled-purchasing models used in other jurisdictions to control prescription drug costs that could be adopted in Canada to conform to existing provincial pricing policies. The American model is the most suitable to compare to Canada’s provincial prescription drug plans, as there is some similarity between public drug programs in Canada and the United States; both are provided by provincial and state governments for seniors and low-income residents. In addition, the public drug systems in both countries operate in a regulatory environment where both federal and state level governments share responsibilities.

**Pooled-purchasing model**

Pooled-purchasing is a policy tool that reduces the wholesale price of prescription drugs through the creation of economies of scale. A larger market for drug products is created when multiple jurisdictions or drug plans combine their prescription volumes and negotiate price reductions as one entity. This policy enables governments to negotiate directly with drug manufacturers to maximize volume rebates beyond those available to provinces negotiating as individual
entities. The rebate rates increase as prescription volumes increase, which makes pooled-purchasing an attractive policy in jurisdictions where prescription drug use continues to increase.

Pooled-purchasing has been implemented in several regions around the world, including India, the OECS, New Zealand, and the United States. Pooled-purchasing agreements in the 1990s tended to serve the health systems of developing countries with limited financial resources, enabling them to lower costs while securing supplies of essential medications. Over the years, pooled-purchasing has been adopted by the health systems of industrialized countries, in particular New Zealand and the United States. In the case of New Zealand, one federal agency pools prescription drug purchases for all 20 of the country's District Health Boards, which are responsible for the delivery of health services within their boundaries. In the United States, some states are forming purchasing pools to reduce the cost of their Medicaid pharmacy programs.

The origins of pooled-purchasing in developing countries

One of the earliest prescription drug purchasing pools was implemented on the recommendation of the World Health Organization (WHO) as part of its Essential Drugs Program in India’s Delhi state in 1997. The Essential Drugs Program is a WHO initiative designed to improve access to a basket of crucial medicines, defined by the WHO, that are required to meet the health needs of a population. Prior to 1997, the state government of Delhi was spending approximately 30% of its health care budget on prescription drugs, which in many cases were not the most
clinically effective (Chaudhury et al. 2005). Furthermore, supply shortages were constant. Hospitals in Delhi state in 1997 served a population of 14 million people and would often run out of essential medications. Furthermore, shortages occurred when health care facilities began competing with each other for drug supplies. A major consequence of this competition was the use of sub-standard drug products purchased by hospitals. Rather than solely addressing cost pressures, the purchasing pool was concerned with addressing supply problems and ensuring higher standards of quality control. A major recommendation that emerged from the WHO’s Essential Drugs Program was the creation of a preferred drug list for Delhi state in conjunction with a pooled-purchasing agreement that covered approximately 150 hospitals and clinics in the state. The costs of certain commonly prescribed prescription drugs were reduced and supplies were stabilized. The price of Amoxicillin, an antibiotic commonly prescribed to children to treat bacterial infections, was reduced by 43% between 1995 and 2000. Chloroquine, an antimalaria drug, was reduced by 37% in the same time period. (WHO 2001).

Forming a purchasing pool in India’s Delhi state decreased prescription drug costs incurred by government-funded clinics and hospitals. In addition, the purchasing pool standardized the procurement process and eliminated competition among the different hospitals in the state, which were competing for scarce drug supplies. As a result, clinical outcomes and patient safety were enhanced through the use of higher quality products.

Granted that India’s heath system is less advanced than provincial health systems in Canada, the Indian experience presents one particular lesson that is
applicable to Canada. India’s experience in eliminating internal competition through a purchasing pool is relevant to the problem of competition among Canada’s provinces. In Canada, provinces do not bid on scarce drug supplies; however, competition to negotiate low prices from manufacturers does exist. In particular, we have seen how drug companies prefer to set price levels with larger provinces before negotiating with smaller ones. In addition, it is possible for drug companies to exploit the willingness of certain provinces to pay for a new drug product. For example, a province with lower levels of per capita drug plan spending could receive an enticing price reduction for a breakthrough product from a manufacturer. The objective of the manufacturer in this case would be to apply pressure, through public opinion, to a larger province with higher per capita levels of drug plan spending to consider listing the new breakthrough product on the formulary without stringent economic or clinical analysis. Purchasing pools in India reduced pressure on individual hospitals to list certain drug products on their formularies, which can increase costs when thorough economic analysis is not conducted.

The Organization of Eastern Caribbean States (OECS) administers a purchasing pool through the Pharmaceutical Procurement Service. The OECS is a political body and monetary union, comprising Anguilla, Antigua and Barbuda, British Virgin Islands, Dominica, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia and St. Vincent, and the Grenadines, and represents a combined population of approximately 550,000 (WHO 2003).

The OECS Pharmaceutical Procurement Service was founded in 1989 with each member state contributing 30% of their pharmaceutical budget to the Eastern
Caribbean Central Bank. The Pharmaceutical Procurement Service issues one single tender and negotiates directly with prescription drug manufacturers on behalf of all nine members while the Eastern Caribbean Central Bank serves as a single purchaser. The governments of each participating nation are then required to reimburse the Central Bank (WHO 2003). Pooled-purchasing was deemed a desirable cost reduction model, as it created a monopsony, a public sector single-purchaser for prescription drugs. Prior to 1989, some OECS members had difficulty obtaining reasonable drug prices and reliable supplies due to the poor reputations of some governments that made late and sporadic payments to drug manufacturers.

The OECS uses a common formulary that identifies essential medicines that are required to meet the health needs of its population. The latest formulary-listing guidelines do not suggest that the common formulary restricts listings to one product for each therapeutic category. The only available cost data from the 2001/2002 tendering cycle indicated that, on average, prescription drug prices have been lowered by 44% for OECS states through economies of scale (WHO 2003). The OECS not only reduced prices and stabilized supplies, it also facilitated greater collaboration among its members by creating a forum to jointly address appropriate prescribing. This is an area where purchasing pools in Canada have the potential to draw provinces together in order to create a common strategy to address appropriate prescribing, which can have an effect on drug plan cost drivers.

Provincial drug plans in Canada are all mandated to address the issue of appropriate prescribing (British Columbia Ministry of Health Services 2010, Saskatchewan Ministry of Health 2010, Ontario Ministry of Health and Long-Term
Care 2011). Through its procurement and tendering policies, the OECS managed to create a dialog among physicians to clarify guidelines to help medication prescribers optimize the appropriate use of certain medications (WHO 2003). A Canadian purchasing pool could potentially play the same role. While the pool will not infringe on existing clinical practice guidelines or the discretion of physicians, a review of drug plan usage statistics in multiple provinces that would precede the establishment of a purchasing pool could prompt a wider discussion on supporting physicians by providing clinical alternatives to medications reimbursable under the drug plan.

**New Zealand**

New Zealand represents an interesting case where a system of reference pricing evolved into a pooled-purchasing model. Pharmaceutical procurement in New Zealand is the responsibility of the Pharmaceutical Management Agency. This federal agency was established in 1993 after New Zealand experienced annual drug cost increases of over 20% throughout the 1980s (PHARMAC 2010). The agency's mandate is to manage government pharmaceutical spending using several different cost control mechanisms specific to generic and patented drug products. Like other government agencies and ministries, PHARMAC does not actually purchase drug products, but rather pools the entire New Zealand market, negotiating directly with manufacturers to achieve lower prices. New Zealand operates a decentralized health system comprised of District Health Boards who operate healthcare facilities with funding that they receive from the ministry. District Health Boards are responsible
for funding all subsidized drug expenditures in their district for both hospitals and pharmacies, but have no control over formulary-listing decisions or price levels.

PHARMAC is unique from provincial health ministries in Canada in that it operates within the constraints of a fixed budget that is set on an annual basis by the health ministry. This unique arrangement means that the agency must ensure that all drug products consumed during the fiscal year fall within the fixed budget. The implication is that PHARMAC must set priorities and decide where to direct drug spending (PHARMAC 2010). In other words, budget constraints may only allow for a very limited number of new breakthrough drug products to become available each year.

PHARMAC’s procurement model evolved from a system that relied exclusively on reference pricing. Generic drug prices are currently negotiated through tenders that usually last several years and guarantee a set price for the duration of the agreement. To achieve additional generic cost savings, multiproduct agreements are sometimes made with one manufacturer for several drug products in different therapeutic groups. Manufacturers offer lower prices to PHARMAC as the market increases for that particular firm’s products. While funding decisions for new products must be prioritized, PHARMAC strives to subsidize one lower-cost drug in each therapeutic group. This strategy allows for competitive bidding between manufacturers, as tendering will guarantee that generic drug prices can remain stable for the length of the tender.

The main criticism of New Zealand’s tendering revolves around its potential to adversely affect outcomes. Between 1994 and 2003, the average length
of hospital stays in New Zealand related to myocardial infarction increased relative to Canada, Australia, and the United Kingdom. All four countries had the same rate of prevalence for myocardial infarction during that period. The increase in the prevalence of myocardial infarction in New Zealand was attributed to the country’s restricted formulary (LeLorier and Rawson 2007). Drug plan costs were controlled through the formulary; however, this resulted in a decrease in the breadth of available medications. Restricting the number of products available for physicians to prescribe to their patients had clear and adverse effects on health outcomes (LeLorier and Rawson, 2007).

A purchasing pool in Canada must not restrict the use of alternative products if health outcomes are adversely affected. Current safeguards in Canada allow for physicians to request full drug plan coverage for their patients when medical necessity requires the use of a drug product approved for use in Canada, but not listed on the provincial formulary and not normally subject to reimbursement through the drug plan (Alberta Health and Wellness 2010, British Columbia Ministry of Health Services, New Brunswick Department of Health 2010, Nova Scotia Department of Health 2009). A Canadian purchasing pool should maintain the ability of physicians to choose unlisted products for their patients even if it prevents health ministries from making multi-product agreements with manufacturers.

**The United States**

Procurement models in the United States have been designed to achieve cost reductions primarily through administrative efficiencies and maximizing
manufacturer rebates. This model has been used more extensively in American states in both an inter- and intra-jurisdictional context. In 2010, the National Conference of State Legislatures reported that five inter-state purchasing pools were operational across the United States. With the exception of the Minnesota Multistate Contracting Alliance for Pharmacy (MMCAP), the other pools cover pharmaceutical purchases for both Medicaid and state employee programs. The MMCAP differs, as it represents individual agencies and clinics across 45 states and multiple health systems. The other four purchasing pools include the National Medicaid Pooling Initiative (NMPI), the Top Dollar Program (TOP$), the Northwest Prescription Drug Consortium, and the Sovereign States Drug Consortium (SSDC), as well as several state level health systems that combine purchases.

The first agreement of its kind, the National Medicaid Pooling Initiative was created in 2002, and received final approval from the United States Department of Health and Human Services in 2004. It began as a collaboration between Michigan and Vermont, and was the first inter-jurisdictional purchasing pool in the United States. The rationale was that a small state like Vermont could enhance its bargaining power by joining a more populous state like Michigan. Subsequently, Alaska, Nevada, and New Hampshire joined the pooling initiative.

A Pharmacy Benefits Manager (PBM), appointed jointly by each participating state government, negotiates drug prices and rebates for purchasing pool members. The PBM was also tasked with creating a common formulary to pool not only the drug needs of Medicaid beneficiaries, but also children’s health programs and state employee benefit programs, which in turn allows for more generous manufacturer
rebates. The PBM also strives to include less expensive patented and generic drugs on the formulary, and is remunerated through an annual flat fee and payments for each claim (Silow-Carroll, Alteras 2004). One of the consequences of relying on PBMs is that states transfer the responsibility of making formulary-listing decisions to the PBM.

The SSDC is worthy of further attention, as it is unique among purchasing pools in the United States and is administered entirely by state governments. The pool was established in 2006, and its members include Iowa, Maine, Mississippi, Oregon, Utah, Vermont, West Virginia, and Wyoming. However, since 2008, a PBM has been appointed to negotiate rebates as the purchasing pool prescription volumes grew. Member states retain their ability to amend their Preferred Drug Lists and to also participate in negotiations. The pool also allows for flexibility in terms of the drug products that receive rebates. Manufacturers have the option of negotiating with seven out of the eight members. This allows a state to opt out of negotiations if it chooses not to list a certain product on the state’s Preferred Drug List. In the event of an opt-out, manufacturers do not know which state is not being included in the price negotiations until after the deal is signed (SSDC 2012). This protects the drug plan from public pressure and excessive lobbying.

A significant advantage of pooled-purchasing is that rebates can be negotiated for both generic and branded drug products. This flexibility has enabled American states to address one of the most significant cost drivers in the country, which is a low rate of substitution of generic products for their branded equivalents. Currently, “Prescribe as Written” legislation exists in 39 states and enables
physicians to instruct pharmacists not to substitute a prescription for a cheaper alternative product. The result has been that Medicaid programs have been saddled with higher drug costs when physicians systematically instruct pharmacists to not substitute for a less costly product (NCSL 2010). For example, the state of Iowa’s Medicaid Pharmacy program reported a generic substitution rate of approximately 30% in 2006 (Iowa 2006). In contrast, Quebec, with Canada’s lowest rate of generic substitution, used generic products for 50% of its drug plan’s prescriptions (Health Council of Canada 2010).

**Applying policy lessons in Canada**

The WHO sponsored purchasing agreement in India and the purchasing pool encompassing OECS were designed for more primitive health systems heavily focused on treating infectious disease rather than chronic health conditions (WHO 2003). The primary objective of these purchasing pools consisted of cost containment as well as an attempt to create a reliable and credit-worthy purchaser of prescription drug products in order to stabilize supplies of essential medicines. The health systems in Canada and the United States are more advanced than those of Indian states and the Caribbean, and the ability of government to pay drug manufacturers is not a concern.

In New Zealand, PHARMAC has shown that multiproduct agreements could entail a certain amount of risk. This could happen if pressure is exerted on a health ministry to list an inferior drug product in a certain therapeutic category in order to lower the cost of another product that is made by the same manufacturer. In
addition, New Zealand’s annual fixed budget for prescription drug spending could 
also exert pressure on the health ministry to buy less expensive and potentially less 
effective medications if it decides to increase spending on drug products in a 
different therapeutic class that particular year.

Policy tools employed by provincial governments in Canada are not 
conducive to inter-jurisdictional collaboration in their present form. Tendering 
processes may not allow all provinces to obtain the same price levels for the exact 
same products. Furthermore, if reference pricing is applied as a cost control tool, 
setting a reference price based on the price levels obtained by a neighbouring 
province for the same drug product forces provinces to constantly compete with 
each other to obtain lower prices. A purchasing pool allows provinces to obtain 
greater volume rebates through the creation of larger drug markets without 
competing with each other. The SSDC model from the United States allows for multi-
jurisdictional collaboration while maintaining the autonomy of state Medicaid 
pharmacy programs. The SSDC model also serves as an appropriate model for 
Canada because it is entirely state government managed, which contributes to 
maintaining drug plan autonomy.

A Canadian purchasing pool could discourage competition among the 
provinces where each province seeks to reduce their drug costs more than other 
Canadian jurisdictions. A purchasing pool could ensure that drug manufacturers do 
not target individual provinces and exert pressure to list newer and costlier 
breakthrough products by offering extremely low prices to one particular province. 
The manufacturer in this case would assume that if one provincial formulary lists
their product, other provinces would have no choice but to follow suit. Furthermore, a purchasing pool will allow provinces to collaboratively seek greater volume discounts from manufacturers for drug products that are common to the formularies of the pool participants.

The next chapter will estimate cost savings that could be achieved through regional purchasing pools in Canada. The purchasing pools are based on the SSDC model with provincial health ministries jointly playing an active role in negotiating lower prices with manufacturers. The SSDC model also allows the provincial drug plan to remain autonomous and health ministries in each province to continue to set the strategic direction of their respective drug plans.
American purchasing pool models show that inter-state competition can be eliminated to allow smaller states to receive supplementary volume rebates from drug manufacturers. The SSDC in the United States also shows that pooled drug purchases are possible without adopting a common formulary, which allows states to maintain their autonomy over their state Medicaid pharmacy programs.

This chapter will estimate the cost savings that could be achieved through two regional pooled-purchasing agreements. Wholesale drug prices will be estimated for a purchasing pool that involves the New West Partnership participants: Alberta, British Columbia, and Saskatchewan. A second hypothetical purchasing pool has been constructed involving New Brunswick and Nova Scotia, both of whom participate in the Atlantic Common Drug Review. While Prince Edward Island and Newfoundland and Labrador also participate in the Atlantic Common Drug review, detailed drug plan expenditure and prescription volume data was unavailable, so estimates could not be constructed.

**Data sources**

Canadian provincial drug plan data was obtained from annual reports for British Columbia, Alberta, Saskatchewan, Ontario, New Brunswick, and Nova Scotia. British Columbia’s data reflects price reductions obtained through rebates negotiated with manufacturers. The exact rebate rates have not been disclosed, and annual reports do not indicate which drug products were subject to rebates. Data required to compare average acquisition costs from other provinces was not available. Ontario’s data for the average drug cost per prescription was incomplete, as it was unavailable after the 2005/2006 fiscal year. Despite Ontario’s data being
older, it is still worthy of comparison, because 2005/2006 was the last fiscal year before Ontario’s new pricing regulations, including undisclosed manufacturer rebates, came into effect. By observing Ontario’s average drug cost levels prior to pricing policy changes in that province, we have the opportunity to gauge the impact of purchasing in reducing drug costs for its members through a natural experiment. Also, Ontario typically has the lowest drug costs in Canada.

**Methodology**

Medicaid Pharmacy Program data was obtained from state government annual reports for states participating in the SSDC purchasing pool. The annual reports showed that the purchasing pool managed to negotiate supplemental rebates of between 15% and 25% off the wholesale drug cost for each prescription. In 2005, Maine’s program received a voluntary manufacturer rebate of 15% for the Disabled and Elderly Drug Program, which consists of approximately 40,000 members (Maine 2005). In 2007, Iowa received a 25% rebate for its entire Medicaid program, which processed approximately 5.6 million prescriptions (Iowa 2007). Iowa was one of only two states in the SSDC to disclose its rebate rate for its entire Medicaid Pharmacy program and was therefore included in the analysis.

It is assumed that supplemental rebates of from 15% to 25% could be obtained from manufacturers in concert with other cost control policies. This range in rebate rates is a reasonable assumption. In 2005, New Zealand’s pooled purchasing agreements reduced drug costs by 21% to 79% of the prices that British Columbia paid for the same drug products. The cost reduction estimates achieved
through regional purchasing pools in this study assume that Alberta, British Columbia, and Saskatchewan form a regional purchasing pool in Western Canada while New Brunswick and Nova Scotia form a purchasing pool in Atlantic Canada. As a consequence, a minimum 15% rebate rate and a maximum 25% rate were applied to the average wholesale drug cost for the provinces of Alberta, British Columbia, Saskatchewan, Nova Scotia, and New Brunswick. The original wholesale and rebated prices were then compared to Ontario’s average wholesale price for the 2005/2006 fiscal year in order to compare the effectiveness of the purchasing pool in converging wholesale drug prices elsewhere in Canada with Ontario’s lower price levels.
Figure 4.1: Estimated average drug cost per prescription with purchasing pool rebates (in Canadian dollars)
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Results

As can be seen in Figure 4.1, a 25% volume discount would see British Columbia, Saskatchewan, and Nova Scotia reduce their average drug costs per prescription to $26.41, $28.90 and $32.48, respectively. These price levels would be lower than Ontario’s average drug cost of $34.66. Alberta and New Brunswick would still remain above Ontario’s average wholesale drug cost at $40.29 and $38.88, respectively. Total cost savings for drug plans in each province could prove to be quite substantial. Table 4.1 shows total cost savings for each province’s drug plan for both a 15% and 25% rebate rate.
Table 4.2: Estimated total cost savings by province

<table>
<thead>
<tr>
<th></th>
<th>British Columbia</th>
<th>Alberta</th>
<th>Saskatchewan</th>
<th>Nova Scotia</th>
<th>New Brunswick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Savings with 15% rebate</td>
<td>$115M</td>
<td>$105M</td>
<td>$63M</td>
<td>$28M</td>
<td>$27M</td>
</tr>
<tr>
<td>Savings with 25% rebate</td>
<td>$192M</td>
<td>$174M</td>
<td>$105M</td>
<td>$47M</td>
<td>$44M</td>
</tr>
</tbody>
</table>
Recalling that Iowa received a 25% rebate for its Medicaid program with a volume of 5.6 million prescriptions, a purchasing agreement among Alberta, British Columbia, and Saskatchewan alone could potentially see a 25% rebate applied to their combined drug plan prescription volume of approximately 50.2 million prescriptions (Alberta 2011, British Columbia 2011, Saskatchewan 2011). Nova Scotia and New Brunswick combined represent about 5 million drug plan prescriptions, and would represent a purchasing pool slightly smaller than the Iowa Medicaid pharmacy program (Nova Scotia 2010; New Brunswick 2010). By comparison, total prescription volumes in Ontario for the 2005-2006 fiscal year were approximately 84 million (Ontario 2006).

Assuming that prescription volumes for the Canadian provinces mentioned above are significant enough to enable provinces to receive a supplementary volume rebate of 25%, provinces forming regional purchasing pools could see substantial savings. A Western purchasing pool would thus see a combined total cost savings of $471 million for British Columbia, Alberta, and Saskatchewan. An Atlantic regional purchasing pool of only New Brunswick and Nova Scotia could see a combined savings of $91 million. These cost savings are significant when we consider that they are achieved by focusing on maximizing potential volume rebates through joint negotiations with manufacturers.

**Limitations**

Estimating savings realized through manufacturer rebates has several limitations. The first limitation deals with the actual discount rate itself as only two
out of the seven states participating in the SSDC publicly disclosed their rebate rates. Iowa’s 25% rebate rate was only reported for the 2007 fiscal year and was not published for subsequent years when a PBM began negotiating directly for the state. Maine’s rebate rate of 15% was only reported for the 2006 fiscal year and also went unreported after the appointment of a PBM.

The second limitation is that each jurisdiction, whether in Canada or the United States, has varying rates of substitution for generic drug products. If a particular drug program uses higher-cost branded products more readily than generic drugs, the average prescription cost for that program will be inflated. Additionally, prescription drug programs with beneficiaries who are primarily seniors or individuals requiring more complex drug therapies will tend to have higher average drug costs per prescription. A purchasing pool will facilitate a single drop in prescription drug prices, but will not address cost drivers, particularly for plans that are more geared towards seniors.

It is important to also consider that volume rebates negotiated through a purchasing pool could be significantly lower than 25% when applied with existing cost control policies. However, in the United States, rebate rates offered to SSDC participants were supplementary rebates offered in conjunction with discounts mandated by the US Department of Health and Human Services. Given that Canada’s federal government does not regulate drug prices through rebates, regional purchasing pools that do not represent the entire Canadian drug market might not have enough market share to entice drug manufacturers to provide significant volume rebates.
Pooling Canadian drug purchasing

An effective purchasing pool in Canada would require integration with existing drug pricing policies and related government bodies. A purchasing pool would have to be implemented at the provincial level of government and would require the voluntary participation of several provinces. The federal government does not have the ability to compel a group of provinces to form a pool. At the federal level, the mandate of both the Patented Medicines Prices Review Board and the Common Drug Review cannot be altered. The implication is that the purchasing pool’s mandate would focus solely on obtaining supplementary rebates for both generic and patented drug products.

The long-term effect of a purchasing pool would allow for the co-ordination of cost control policies, as all members of the pool would be required to show an equal commitment to obtaining lower prices through the harmonization of formularies. The following chapter will deal with the implementation of provincial level purchasing pools in Canada. In particular, integrating a purchasing pool into existing drug pricing and regulatory bodies will be discussed.
In the previous chapter, we estimated cost reductions that could be achieved through purchasing pools. The estimated cost reductions assumed that manufacturer rebates are possible in conjunction with existing pricing regulations. While a purchasing pool will lower the wholesale cost of prescription drugs, cost drivers will remain constant, and total public drug program expenditure will continue to increase over time. In addition to lowering the wholesale cost of prescription drugs, a purchasing pool can create a more transparent regulatory regime for drug prices. It allows all pool participants to negotiate directly with drug manufacturers and negates the need for some provinces to withhold the prices they receive. This type of negotiating process could allow smaller provinces to receive larger volume discounts when they combine their smaller market with that of a large province. In order for a purchasing pool to be successful, it must fit seamlessly into existing regulatory bodies at both the provincial and federal levels. This chapter will demonstrate how provincial level purchasing pools could be integrated into existing federal and provincial regulatory bodies.

The establishment of regional purchasing pools will be a departure from a more traditional pattern of federalism led by Ottawa. Regional bodies that unify provinces under the common goal of controlling prescription drug costs resemble a model of collaborative federalism. Collaborative federalism is defined as collaboration centered on a broad national policy (Cameron and Simeon 2002). In the mid 1990s, large cuts by the federal government to provincial transfer payments created a greater need for provincial collaboration. The ongoing situation in which provincial governments find themselves is that they must continue to divert funds
from other social programs into the health care system (Courchene 2004). With the creation of the Canada Health and Social Transfer payment in 1995, the federal government actually reduced its control over the formulation of social policy. While the principles of the federal Canada Health Act (comprehensiveness, universality, portability, public administration and accessibility) remain, the provinces are playing a greater role in funding the healthcare system and can exert greater influence over health policies (Courchene 1995). One way for provinces to exert greater control over health system sustainability is through collaboration to reduce costs. Provinces could work together to control plan drug costs through two existing bodies and agreements, the New West Partnership and the Atlantic Common Drug Review, which could form the foundation of two regional purchasing pools in Canada. The establishment of regional bodies to reduce prescription drug prices through purchasing pools is contingent on a certain degree of formulary harmonization. Therefore it is important to understand the current trends in this area.

**Formulary harmonization**

Current literature tends to examine procurement policy changes in individual provinces and is largely a consequence of previous research that suggested there was relatively little formulary agreement among the provinces in the late 1990s. Dissimilar formularies were largely a consequence of insular drug review processes where each province unilaterally introduced new drug products without consultation with other provinces (Gregoire et al., 2001). MacDonald and
Potvin (2004) also concluded that there was relatively little overlap among provincial formularies for drug products classified in the same chemical groups, as defined by the World Health Organization. The extent of these differences led MacDonald and Potvin to conclude that patients living in certain provinces did not have access to entire therapeutic classes of drugs.

Morgan et. al. (2009) have conducted the most current research related to formulary variation in Canada (Morgan et al. 2009). Their research has demonstrated that, at least since 2001, provincial formularies have become more similar to each other, a finding that challenges conventional beliefs. Morgan (2009) has suggested that the greatest agreement among formularies is occurring within the top 13 therapeutic categories, as measured by sales volumes. By focusing on individual drug products and their related therapeutic categories, Morgan has enhanced the work of MacDonald and Potvin, showing that equivalent drug products in these therapeutic categories appear on provincial formularies across Canada, and that formularies are becoming more harmonized. Morgan suggests that, even without any provincial level policy co-ordination beyond the joint Common Drug Review, provincial formularies are gradually becoming more harmonized.

With provinces unilaterally moving towards formulary harmonization, the foundation of a purchasing pool is being formed. Formulary harmonization could lead to higher prescription volumes for commonly prescribed products. This will enable purchasing pool members to maximize supplementary volume rebates. In addition to formulary harmonization, the idea of a national formulary for Canada has been discussed as another possible alternative.
National formulary

Recent Canadian literature tends to emphasize the establishment of a national formulary for public drug plans and increased federal responsibility for pharmaceutical procurement as essential to cost control. Research focusing on formulary agreement assumes that further harmonization of provincial formularies must form the foundation for any multi-jurisdictional purchasing agreement, usually through a national formulary (Morgan, McMahon, Barber 2007). Hollis and Law (2004) concluded that while a national formulary increases their bargaining power with drug manufacturers and allows for lower prices to be negotiated, provinces with similar drug programs could collaborate and harmonize their formularies. This conclusion assumes that formulary harmonization would be implemented even if it means that some provinces would have to increase drug plan spending to add previously unlisted products to their formularies. Hollis and Law (2004) contend that the main obstacle to greater collaboration lies in differences among the provinces in their willingness to pay for new or more expensive drug products.

In addition to reluctance among certain provinces to reduce their listings of breakthrough products, health ministries tend to make spending decisions related to the drug plan for both ideological and pragmatic reasons (Pomey et al 2010). The result is that provincial drug plan strategic goals may not align. In the current policy environment, where co-ordination through the Common Drug Review is limited to product listing decisions, provincial strategic directions for drug plans could be moving in opposite directions. For example, Alberta has shown restraint by reducing funding for its drug plan during periods of economic growth in the late
1990s while Ontario expanded public drug programs during a recession in the early
1990s. British Columbia, during the recession of the 1990s, chose to cut drug plan
funding when faced with a large provincial deficit (Pomey et al 2010). Provided that
political differences can be overcome, a national formulary has been shown to have
the potential to reduce the cost of provincial prescription drug programs.

Morgan et al. (2007) examined the advantages of a national formulary in New
Zealand, which has successfully controlled costs while providing medically
necessary drug therapies. New Zealand has successfully controlled pharmaceutical
costs since 1993. When prices paid by the government of New Zealand for
commonly prescribed pharmaceuticals were compared to prices paid by British
Columbia’s pharmacare program, Morgan et al. (2007) found that New Zealand paid
between 21% to 79% less than British Columbia for similar drug products in 2005.
Currently no comparisons have been made between prices paid in New Zealand
with prices paid in other Canadian provinces. While this estimation of savings is
useful, it does not address the question of whether price levels paid by New Zealand
are acceptable and whether they could be lower. In 2004, the average prescription
costs in Canada, including dispensing fees, varied from $37.80 to $67.80 (Coombes
et al 2004). Their main conclusion was that provinces have not established an
acceptable standardized price level for prescription drugs in Canada. Despite the
fact that branded drug prices are set by the Patented Medicine Prices Review Board,
generic drug prices can only be regulated by provincial policies. This has been
achieved primarily through price caps that set maximum price levels at which drug
plans will reimburse for generic drugs.
The optimal model for Canada

Previously, the Sovereign States Drug Consortium (SSDC) was proposed as a potential purchasing pool model that could be applied to Canada. The SSDC purchasing pool could serve as a good model for purchasing pools in Canada, because the pool is administered entirely by state governments. The SSDC model also works in conjunction with federal drug price regulations in the United States by allowing member states to maximize supplemental volume rebates rather than setting new price levels for each drug product (Iowa, 2012). A purchasing pool is also an ideal cost control model when jurisdictions are operating in an environment without a clearly defined acceptable prescription cost. Pool members have the opportunity to negotiate a cost based on their willingness and ability to pay. This is not possible for smaller jurisdictions attempting to negotiate price levels unilaterally.

Co-ordinating drug plan objectives

Co-ordination of drug plan objectives is crucial for a purchasing pool to be successful. Co-ordination over time can lead to regulatory efficiencies while maintaining the autonomy of provinces to continue to administer their own provincial drug programs. Purchasing pools create efficiencies through their ability to bring together multiple jurisdictions for the purpose of negotiating additional rebates with manufacturers. While a purchasing pool modeled on the SSDC could allow for flexibility by allowing a province to opt out of a new drug listing, the
participants must seek some degree of alignment of strategic objectives for their
drug plans as well as a similar commitment to cost control.

The provinces differ when it comes to their focus on cost control. The
Auditor General of Manitoba reviewed the province's drug plan in 2006 and found
that cost reduction was being overlooked by the Health Ministry even while
Manitoba's neighbours were actively seeking to reduce costs. The report found that
the branch responsible for the provincial drug plan had failed to allocate staff to
develop and implement cost containment policies (Manitoba 2006). In contrast,
British Columbia's Auditor General has regularly reviewed the province's Reference
Drug Program since 2002 and has constantly monitored the Health Ministry's
compliance to the Auditor General's recommendations (British Columbia 2006).

Drug plan priorities must also be balanced with the priorities of the
purchasing pool. If one province decides that a newly introduced breakthrough
product should be introduced on their formulary, contrary to the views of other
pool members, then that particular province will have to decide if they are prepared
to accept a higher price for that drug product. The SSDC mitigates the effects of
these types of decisions on the entire pool by allowing states to maintain control
over their preferred drug lists. In Canada, the Western provinces and the Atlantic
provinces have both been moving in the right direction when it comes to
collaboration related to health services cost reduction. In Western Canada, the New
West Partnership strives to cut costs through joint purchasing of supplies. In
Atlantic Canada, the Atlantic Common Drug Review attempts to inform formulary-
listing decisions through the review of evidence-based practice.
Western Canada

The signing of the New West Partnership in 2009 by Alberta, British Columbia, and Saskatchewan paved the way for a higher level of healthcare collaboration. The goal of the partnership is to create a barrier-free trade area in Western Canada. The Partnership includes a commitment to deepen collaboration through the joint purchasing of medical supplies and services (Saskatchewan Executive Council 2010). Procurement processes will be standardized through the work of a steering committee, consisting of Assistant Deputy Ministers from each province, which is responsible for government procurement (Saskatchewan Executive Council 2010). At a lower level, there is currently a joint-purchasing agreement between Alberta and British Columbia to pool hospital drug purchases. This agreement excludes drug plan prescriptions. In addition, Alberta, British Columbia, and Saskatchewan have discussed the possibility of collaborating on reducing drug prices through a joint-purchasing strategy. This strategy has not been applied to drug plan procurement processes in any of those provinces (Health Council of Canada 2011).

The current intent of the partnership is to reduce the price of commonly purchased government supplies, but it could eventually include pharmaceutical products as well. The New West Partnership could evolve to include a pooled-purchasing agreement and would represent a combined drug plan prescription volume of 52 million prescriptions. The participating provinces would be able to maintain control of their formularies through the New West Partnership; however, further co-ordination would be required in order to determine an appropriate price
level. For example, British Columbia uses reference pricing to determine an appropriate price for some of their listed drugs. In contrast, Alberta’s pharmaceutical strategy defines appropriate generic drug prices as a percentage of the branded equivalent’s price. Saskatchewan negotiates prices as part of its tendering process. Therefore a common definition for an appropriate price for both generic and branded drug products needs to be established. In the case of branded products, the western purchasing pool would need to decide whether branded drug prices set by the federal government are appropriate. If the pool participants do not agree, then they would need to establish a common appropriate price level prior to negotiating with branded drug manufacturers.

**Atlantic Canada**

In Atlantic Canada, a potential purchasing pool could emerge through the Atlantic Common Drug Review (ACDR) whose members include New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador. The purpose of the ACDR is to provide an assessment of clinical efficacy and cost effectiveness of prescription drugs that do not fall under the mandate of the Common Drug Review or the pan-Canadian Oncology Review. Health ministries in each province maintain the authority to make listing decisions. Drug plan managers in any one of the participating provinces have the ability to trigger a review of existing products listed on the formulary at any time (Nova Scotia 2011). In contrast to the New West Partnership, the goal of the ACDR is not to facilitate bulk purchasing or inter-provincial trade. Bulk purchasing of drugs administered in hospitals in New
Brunswick and Prince Edward Island are currently procured through Contract Management Service Limited, a private sector corporation. Moving beyond hospital purchasing and using the ACDR as a framework for regional bulk purchasing will enable the Atlantic provinces to pool drug plan purchases.

Creating a purchasing group for Atlantic Canada would be challenging, as it would require dramatic legislative and organizational change in some provinces. Newfoundland and Labrador applies “most favoured nation” legislation to ensure that drug manufacturers match the lowest Canadian price for a particular product for Newfoundland residents. This type of legislation could hinder the ability of a purchasing pool to negotiate prices with manufacturers in a timely manner. When “most favoured nation” legislation is applied in a particular jurisdiction, there is no incentive for manufacturers to offer lower prices until prices are negotiated in larger provinces or with a larger purchasing pool. To further illustrate this point, recall that a theoretic purchasing pool consisting of Alberta, British Columbia, and Saskatchewan would represent a combined prescription volume of 52 million prescriptions and would represent a larger market than an Atlantic pool of a minimum of 5 million prescriptions. Therefore “most favoured nation” legislation may force the Atlantic provinces to pay a higher price where they have a strong desire to reimburse a certain product through their drug plans. The alternative would be to wait until larger provinces negotiate a lower price. As previously mentioned, delaying listing decisions comes with higher costs, as health ministries may have to reimburse at higher prices while negotiations take place.
Regulatory power and market competition

Canada’s Competition Bureau has cautioned that a reduction in the number of generic drug manufacturers entering the market could lead to less competition in that sector over the long term (Competition Bureau 2008). Previously we saw how tendering over the long term could discourage competing firms from entering the drug market. The same possibility holds true for a purchasing pool. If the pool favours one particular manufacturer over others for an extended period of time, competing firms may choose not to enter the market. Over the long run, a less competitive market could prevent reductions in drug prices.

Concentrating government regulatory power through purchasing pools could lead to a market condition known as monopsony. Monopsony leads to a state of imperfect competition where there is one buyer in the market and multiple sellers. While health ministries are not directly buying drug products, they are setting the price. In the short-term, government monopsony power has the potential to reduce prescription drug costs. In the long-term, this type of market power can discourage innovation in the drug sector by depressing corporate profits for drug manufacturers who, in the long run, could choose to spend less money on research and development of new products. While this is theoretically possible, a reduction in research and development spending caused by government monopsony power in the drug sector has not been observed in small drug markets with monopsony market conditions. For example, New Zealand’s PHARMAC agency as a single purchaser of prescription drugs has not stifled innovation in the drug market due to the small size of the market. Canada’s drug market, in particular with respect to
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patented drugs, is also reliant on products made by foreign firms. Due to the relatively small size of the entire Canadian market, it is not likely that a government monopsony would restrict innovation in the market. A monopsony, however, could reduce the selection of products that are available to physicians to prescribe to their patients and could adversely affect health outcomes as has been suggested in the New Zealand study (Lelorier and Rawson 2007).

**Impact on health sector stakeholders**

Pooled-purchasing is designed to reduce government expenditure on publicly funded drug programs. While this goal enables health ministries to maintain these drug programs while reducing costs, several stakeholders in the health sector have raised concerns. In particular, the Canadian Pharmacists Association has emphasized the need to tackle inappropriate prescribing, which in turn will reduce utilization (Canadian Pharmacists Association 2005). The position of the Association emphasizes the role that pharmacists can play to inform policies related to medication review to ensure safe and appropriate prescribing practices. The Pharmacists Association has also echoed some of the concerns raised by the Competition Bureau that pooled-purchasing can lead to a smaller selection of drug products that are available to patients (Canadian Pharmacists Association 2005). The Better Pharmacare Coalition, a British Columbia-based association comprising physicians and patient advocates, has echoed some of the concerns of the Canadian Pharmacists Association. In particular, the coalition is concerned that existing bulk purchasing agreements for medical supplies between British Columbia
and Alberta have limited treatment options for patients. The Coalition believes that if these agreements are expanded to include bulk purchasing, provincial drug plan beneficiaries will receive reduced levels of care through a smaller selection of drug products (Better Pharmacare Coalition 2012). The Coalition has also expressed concern that private sector companies could handle future bulk-purchasing agreements in British Columbia rather than a public body. As a result, a for-profit corporation may not be able to protect the interests of patients in British Columbia (Better Pharmacare Coalition 2012).

The pharmaceutical industry in Canada opposes pooled-purchasing agreements, because they would severely restrict access to Canada’s drug market. Firms that are unsuccessful in getting their products listed on provincial formularies will not be able to sell their products to provincial drug plan beneficiaries. In particular, the industry cites less competition in the Canadian drug market and potential supply shortages that can materialize under a pooled-purchasing agreement as potential problems. Canada’s Research-Based Pharmaceutical Companies (Rx&D) has suggested that pooled purchasing could reduce drug prices to such low levels that it would discourage innovation in the Canadian market. In turn, less innovation would lead to fewer drug treatment options for physicians to prescribe to their patients (Canada House of Commons 2012). Drug manufacturers in Canada contend that government cost containment should focus on optimizing the use of prescription drugs while ensuring that drug treatments provide value for money. For example, increasing the use of more costly and effective drug products could be offset by hospital costs (Canadian Pharmacists’ Journal 2010).
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Fewer medication suppliers in the Canadian drug market could also restrict the availability of essential medications in the event of a shortage. RX&D has expressed concern that while bulk-purchasing agreements contain a provision that a certain supply of each medication must be provided, these agreements do not compel drug manufacturers to hold supplies in reserve in the event of production disruptions (Canada House of Commons 2012). Drug manufacturers have argued that bulk-purchasing agreements with only one supplier will prevent other firms from entering the market to prevent prescription drug shortfalls (Canada House of Commons 2012).

**Impact on industrial policy**

In addition to concentrating regulatory power with government and raising concern with health sector stakeholders, a purchasing pool could have significant implications on industrial policy related to the pharmaceutical industry in Canada. Research related to procurement policies serving a secondary role of industrial policy for domestic drug manufacturers are only discussed in a Quebec context (Pomey, Forest, Palley, Martin 2007). In addition, the issue of procurement policies acting as industrial policy to promote innovation in the industry only appears in literature providing an overview of pricing in international jurisdictions rather than Canadian provinces. (Morgan, McMahon, Greyson 2008). There are no studies, for example, out of the United States, which discuss the impact of the pharmaceutical industry on inter-state or federal and state level drug pricing regulations.
Australia, like Canada, is home to a generic drug industry, and as a result, pressure from the industry attempts to increase the usage of domestically made products. Australia’s government has tried to balance the need for affordable drugs while attempting to support the domestic pharmaceutical industry (Morgan, McMahon, and Greyson 2008). Australia’s federal government has made a concerted effort to bolster the country’s pharmaceutical industry with the Action Agenda 2001, which endeavoured to double Australia’s share of the global generic drug market. The plan included an AUD $150 million fund from which eligible pharmaceutical manufacturers carrying out research and development in Australia could receive AUD $0.50 for every dollar spent (Morgan, McMahon, Greyson, 2008). Overall, however, it is important to recognize that when comparing 2007 prices, Australia’s prices for innovative or breakthrough drugs were similar to those of the United States. When comparing 22 new products, Australian prices were on average 4.2% more costly. It appears that procurement policies are not being used to support an uncompetitive industry (Morgan, McMahon, and Greyson 2008). Australia’s federal government has managed to balance industrial policy and appears to have encouraged domestic research and development. It is important to note, however, that Australia’s government has made a conscious choice to continue procurement from domestic industries when an alternative policy approach would have been to look for alternative products abroad and attempt to negotiate a price for the Australian market. As it stands, the Australian national formulary serves as an important industrial development tool in addition to providing necessary pharmaceuticals to Australians.
In a Canadian context, Quebec’s public drug plan is an example of both a procurement regime and industrial development tool. In Quebec, legislation encourages higher usage rates of branded drug products. Once a patented drug product is listed on the provincial formulary, it must remain a reimbursable product for the next 15 years, even after a generic equivalent becomes available. This has led to high and escalating costs. According to the provincial Health Ministry, the province’s pharmaceutical industry employs 18,600 people (Pomey et al., 2007). Quebec provides subsidized drug coverage to uninsured provincial residents. The proportion of brand name drugs on Quebec’s public formulary was close to 20% higher than the proportion of brand name drugs found on other provincial formularies (Pomey, Forest, Palley, Martin, 2007).

Additionally, "most favoured nation" legislation requiring Quebec to receive the lowest price in Canada for any drug product has failed to curb escalating drug program costs. Research has shown, however, that Quebec has been successful in improving equity and access for provincial residents as well as bolstering the pharmaceutical industry in the province, which is concentrated on producing branded rather than generic drug products. (Pomey, Forest, Palley, and Martin 2007).

**Integrating pooled-purchasing with federal bodies**

Purchasing pools in the United States operate in tandem with the Department of Health and Human Services’ price regulation body. In Canada, it is possible for purchasing pools at the provincial level to operate alongside the
Patented Medicine Prices Review Board (PMPRB). The PMPRB is tasked with regulating prices exclusively for branded drugs rather than generic products. Purchasing pools seeking to reduce generic prices would not impede the PMPRB review process. Purchasing pools could attempt to negotiate further price reductions for branded products as they do in the United States. This should not have an impact on PMPRB decision making since any negotiations at the provincial level would have to take place after the federal government sets patented drug prices.

A purchasing pool would also allow the Patented Medicine Prices Review Board to carry out price evaluations of patented drug product prices. If the Board deems price levels for a certain product excessive, there are policies in place that call for the offset of excessive revenues. Drug manufacturers must offset the excessive drug price through a payment to the federal government or through price reductions of any other patented drug product that the manufacturer is approved to sell in Canada (Patented Medicine Prices Review Board 2010). Purchasing pools will need the ability to conform to this process.

Provincial purchasing pools would also require integration with the Common Drug Review and the pan-Canadian Oncology Drug Review. While these bodies do not regulate drug prices, their formulary-listing decisions impact drug spending. The Common Drug Review and the pan-Canadian Oncology review could continue to conduct clinical and economic evaluation to make formulary-listing decisions. Purchasing pools would also have no adverse effect on the reconsideration process that allows manufacturers to appeal the CDR’s listing recommendations.
In a Western regional purchasing pool, drug plan managers from British Columbia, Alberta, and Saskatchewan will consider formulary-listing decisions made by the Common Drug Review. Assuming that all drug plans agree with the CDR’s listing decision, a committee composed of representatives from the three provinces would then make a joint decision and approve negotiations between the purchasing pool and drug manufacturers. The Patented Medicine Prices Review Board will continue to regulate the prices of patented drugs followed by decisions from provincial drug plan managers and the purchasing pool’s joint decision body. If the price of a patented drug is deemed excessive, the offsetting of the price could be negotiated between the Patented Medicine Prices Review Board and the Western purchasing pool’s joint decision committee.

An Atlantic regional purchasing pool would operate in the same manner. However, the Atlantic Common Drug Review process would supplement the Common Drug Review’s formulary-listing decision. In order to better illustrate how regional purchasing pools can be integrated with existing regulatory bodies, the diagrams below show each step of the clinical and economic review process for generic and patented drug products in Canada.
Figure 5.1: Western regional purchasing pool (original in colour)

- Common Drug Review (Joint Provincial Level Decision)
- Patented Medicine Prices Review Board (Federal Level Decision)
- Provincial Drug Plan Decision (Provincial Level Decision)
- Offset of Excessive Revenues
- Western Purchasing Pool Joint Decision
Figure 5.2 Atlantic Regional Purchasing Pool

Common Drug Review (Joint Provincial Level Decision)

Atlantic Common Review (Joint Provincial Level Decision)

Provincial Drug Plan Decision (Provincial Level Decision)

Patented Medicine Prices Review Board (Federal Level Decision)

Offset of Excessive Revenues

Atlantic Purchasing Pool Joint Decision
Transparency and accountability

A purchasing pool or a series of purchasing pools could facilitate greater transparency among participating provinces. British Columbia and Ontario in 2006 concluded multi-product agreements with drug manufacturers in return for undisclosed volume rebates. This tendering process involving rebates stifled competition in the drug markets of both of those provinces. The concern was that prices for products receiving rebates could substantially increase for consumers who were purchasing the same drug out of pocket or through a private drug plan. The justification for lack of public reporting of rebate rates has to deal with competition from American medical service providers. Drug companies who sell their product in the United States do not want to disclose the extent of the volume rebates that are negotiated with large Canadian jurisdictions (Silversides 2009). As of 2008, both British Columbia and Ontario have suspended confidential volume rebates as part of their tendering process. This is not to say, however, that these rebates could not form a part of future negotiations.

Greater transparency in the drug market could also negate the need for “most favoured nation” legislation. This legislation exists in Newfoundland and Quebec. As previously discussed, this type of legislation insures that both provinces always receive a price that matches the lowest Canadian price level for each drug product on the formulary. With Newfoundland being a small market for drugs, the legislation in that province does not have a large impact on Canada’s national prescription drug market. However, as one of the largest provinces, Quebec does have a significant impact and has considerable influence on price negotiations.
across Canada. Smaller provinces are usually not able to negotiate drug prices with manufacturers until a price level is set for Quebec. The reason is that manufacturers want to sell their product at the highest possible price to a large province like Quebec. There is no incentive for manufacturers to negotiate unilaterally with a small province until prices have been set for Quebec for fear of setting prices too low for smaller provinces.

When it comes to transparency and accountability in the prescription drug sector, a purchasing pool will allow multiple jurisdictions to jointly negotiate volume rebates. The Competition Bureau warned in 2008 that clandestine rebates are hard to measure in terms of their cost effectiveness. As a result, it is not clear whether a tendering process that seeks to maximize these types of rebates is actually leading to the lowest possible wholesale drug costs (Competition Bureau 2008). Provinces with small populations benefit from the greater transparency that a purchasing pool could bring in that they would be able to play a role in price negotiations with manufacturers along with larger provinces.
Canada’s provinces are faced with escalating public drug plan costs. If costs continue to escalate, provincial health ministries will be forced to choose between cutting drug plan benefits or transferring funds from other areas of the health system to cover increasing medication costs. Both of these options have the potential to leave provincial residents, in particular seniors and low-income residents, with lower levels of health care services. Increasing prescription drug volume is one of the principle cost drivers of provincial drug plans. Prescription drug spending is currently increasing by an average annual rate of 6.2% (CIHI 2011a). It is clear that current policy tools employed by Canada’s provinces have not made a significant impact when it comes to reducing expenditure on drug plan benefits. Current policy tools are not conducive to further inter-provincial collaboration, which hampers the ability of smaller provinces to reduce their drug plan costs. Large provinces are able to negotiate lower prices from manufacturers due to their larger drug markets. Smaller provinces find that drug manufacturers are reluctant to negotiate until a price level is established in a larger province, usually Ontario or Quebec. If a new collaborative approach is not taken, smaller provinces will be saddled with high drug plan costs and no effective way of reducing these costs.

A potential solution for burgeoning drug plan costs in Canada is to create economies of scale through a purchasing pool. This approach would allow large provinces to continue to seek volume rebates from manufacturers while also allowing smaller provinces to receive the same rebates as members of the purchasing pool. International jurisdictions provide evidence of a solid track record
of the cost containment that can be achieved with purchasing pools. New Zealand’s national purchasing pool reduced its drug costs to between 21% and 79% less than British Columbia’s prices (Morgan et al. 2007).

Purchasing pools in the United States are designed to reduce the costs of state-funded Medicaid pharmacy programs by maximizing supplemental volume rebates obtained from pharmaceutical companies. Manufacturers offered state purchasing pool rebates on top of federally regulated drug prices. A rebate range of 15% to 25% is a reasonable estimate. Iowa, an SSDC member, received a 25% rebate with a total Medicaid Pharmacy program prescription volume of approximately 5.2 million (Iowa 2007). Maine, another SSDC member, received a 15% rebate for their publicly financed seniors drug program of only 40,000 beneficiaries (Maine 2005).

By comparison, a western Canadian purchasing pool with British Columbia, Alberta, and Saskatchewan would present a combined prescription volume of 52 million (British Columbia 2010, Alberta 2010, Saskatchewan 2010). A purchasing pool between the Atlantic provinces, New Brunswick and Nova Scotia represents a combined total prescription volume of at least 5 million (New Brunswick 2010, Nova Scotia 2010). A Western purchasing pool among British Columbia, Alberta, and Saskatchewan would be able to jointly cut costs by approximately $471 million each year. A purchasing pool in Atlantic Canada comprising of just New Brunswick and Nova Scotia could deliver cost savings of approximately $91 million each year.

The Sovereign States Drug Consortium is a purchasing pool model that could be applied in Canada. The SSDC pool is the only one in the United States that is
jointly administered by state governments and is mandated to reduce the cost of publicly funded state Medicaid pharmacy programs. The SSDC allows its participants to maintain control of state formularies as well as the strategic direction of the pharmacy program. This autonomy is protected through the ability of one state to opt out of listing a drug product. In the event of an opt-out, negotiations with other states will not cease. Applying the SSDC model to Canada could create supplemental rebate rates for Canadian purchasing pools that range from 15% to 25% of current average drug costs per prescription. It is assumed that the provinces would be able to negotiate these additional volume rebates above and beyond current price levels, which are already subject to price regulations and other provincial cost control policies.

Purchasing pools will allow provinces to reduce drug plan costs; however, they will not address drug plan cost drivers that include increasing prescription volumes and costlier drug therapies. Provincial level purchasing pools could play a role in aligning provincial drug plan benefits to ensure that all provinces are equally committed to reducing costs. This is currently not the case in Canada, and some provinces are slow to adopt cost reduction policy tools. Aligning drug plan benefits could also foster the collaboration required to tackle the issue of appropriate prescribing. Reducing inappropriate prescriptions reimbursable under provincial drug plans could also contribute to cost savings.

Adopting regional purchasing pools in Canada would require integration with existing regulatory bodies, namely the Common Drug Review and the Patented Medicine Prices Review Board. Purchasing pools will not inhibit the Common Drug
Review’s clinical review process or undermine its formulary listing decisions. The Patented Medicine Prices Review Board will continue to operate independently of provincial purchasing pools to ensure that Canadians pay fair prices for patented drug products.

Provincial health ministries enjoy full drug plan autonomy and are able to control formulary listing decisions as well as the strategic direction of the drug plan. Joining a purchasing pool will not impede provincial decision making. Similar pools in the United States have shown that it is possible to maximize rebates for pool participants while maintaining separate preferred drug lists for each state. In addition, the SSDC allows one of its seven member states to opt-out of each purchase if that state feels that it cannot afford it or is unwilling to pay for additional coverage of a certain drug. A similar feature in a Canadian agreement would ensure that contentious listing decisions do not derail negotiations between the entire purchasing pool and the drug manufacturer. A purchasing pool in Canada would not require the adoption of a single formulary to be used by the pool. As a result, drug plan autonomy can be maintained, and there would be no need for a national formulary and accompanying national administrative body to provide regulatory oversight.

Over time, regional purchasing pools could expand to include Manitoba, Ontario, and even Quebec. Including Ontario and Quebec in a pool could enable larger volume rebates to be negotiated due to their large provincial markets. While the participation of Ontario and Quebec in a purchasing pool would be optimal, a possible point of contention could be provincial policies that encourage generic drug
use. Quebec’s public drug plan has the highest usage rate of domestically produced patented drug products. In contrast, Ontario is home to Canada’s generic drug industry and would benefit from greater generic drug use. Involvement of either of these two provinces has the potential to influence the use of generic products and could have profound effects on Canada’s pharmaceutical industry.

Canada’s pharmaceutical industry has already voiced its objection to pooled purchasing, citing fears that restricting access to Canada’s drug market will not allow firms to remain profitable. The industry contends that the long-term effect of fewer Canadian firms will hamper the development of innovative drug products in Canada. In addition, the pharmaceutical industry has suggested that multiple suppliers in Canada’s drug market protect patients from drug supply shortages.

Medical professionals in Canada, in particular physicians and pharmacists, also oppose pooled-purchasing, as they fear the selection of drug therapies available to patients will be significantly reduced. This implies that patients will receive lower quality health care. Patient groups also oppose pooled-purchasing, because of concerns surrounding fewer treatment options resulting in less patient choice in the type of care they receive.

While pooled-purchasing provides a streamlined price negotiation framework and a promising opportunity to reduce provincial drug plan costs, provincial governments must acknowledge the impact on Canada’s pharmaceutical industry and ensure that research and development can continue to take place in Canada. Additionally, provincial governments must also be mindful of the ways pooled-purchasing reduces the ability of physicians and pharmacists to customize
the type of care they can provide to their patients. Engagement with these stakeholder groups will be essential if provincial health ministries hope to realize the full potential of the cost reduction that is possible through the adoption of pooled-purchasing agreements.
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