

# An economic analysis of the impact of reductions in generic drug rebates on community pharmacy in Canada

Paul Grootendorst\*  
Marie Rocchi  
Harold Segal

Research Assistants:  
Chakshu Gupta  
MS Shim

Leslie Dan Faculty of Pharmacy  
University of Toronto  
Toronto ON

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\*Contact Information:

Paul Grootendorst  
University of Toronto  
144 College St  
Toronto ON M5S 3M2

Phone 416 946 3994  
Fax 416 978 1833

[paul.grootendorst@gmail.com](mailto:paul.grootendorst@gmail.com)  
<http://individual.utoronto.ca/grootendorst/>

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## ***Introduction***

Community pharmacies in Canada derive a substantial share of their revenues from dispensing prescription drugs to consumers. Prescription drug dispensing revenue is the sum total of: 1) the drug invoice price (i.e., the price of the drug as printed on the invoice from the pharmacy's drug supplier); 2) a proportional markup on the drug's invoice price; and 3) a 'professional fee' (or 'dispensing fee') that is typically unrelated to the drug invoice price. The *net* revenue from dispensing depends on the pharmacy's actual drug acquisition cost. There is evidence that the acquisition cost of generic drugs is substantially less than the invoice price owing to rebates paid to the pharmacy by generic drug manufacturers.

Recently, provincial government drug plans have attempted to reduce the amount that they pay for generic drugs by eliminating or reducing rebates accruing to community pharmacies. There is little research evidence on the impact of these policies on the economic aspects of the Canadian community pharmacy industry, including pharmacy profits, patient service provision, store location and prices of drugs and pharmacist services. The objectives of this study therefore are, first, to provide an economic analysis of the impact rebates have had on community pharmacies in Canada, and, second, to consider the potential economic effects of a reduction in these rebates through actions taken by public and private drug plans.

## ***The origin of rebates***

Rebates are the principal means by which manufacturers of multi-source generic drugs<sup>1</sup> have competed for market share. The competitive use of rebates is an artifact of policies enacted by provincial and federal governments in the late 1960s and the early 1970s. Among the initiatives were the 1969 changes to the federal *Patent Act* that had the effect of

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<sup>1</sup> Multi-source generic drugs are copies of a reference brand name drug produced by different manufacturers, where each copy is deemed to have the same active ingredient, dosage form and strength of the reference drug. It is not uncommon for there to be a dozen or more different generic copies of widely-prescribed off-patent drugs. For instance, there are 13 different generic manufacturers of the antibiotic ciprofloxacin: Apotex, Cobalt Pharmaceuticals, Dominion Pharmacal, Genpharm, Novopharm, Pro Doc Limitée, Pharmel, Pharmascience, Ratiopharm, Laboratoire Riva, Ranbaxy Pharmaceuticals, Sandoz, and Taro. Source: <http://205.193.93.51/dpdonline/startup.do>. [all websites accessed August 18, 2008]

encouraging the growth of a domestic generic drug manufacturing industry.<sup>2</sup> This policy worked in concert with provincial legislative changes that allowed pharmacists to substitute a generic drug when filling a prescription for a brand name drug. The policy that most affected the growth in rebates, however, was the manner in which the Ontario provincial government drug plan paid for drugs. When the Ontario Drug Benefit plan (or ‘ODB’) was first established in the 1974, it set reimbursement prices for multi-source drugs by requesting price quotes from the manufacturers of these drugs and limiting reimbursement of all to the lowest quoted price.<sup>3</sup> This procurement mechanism provided little incentive for firms to quote low prices since it did not provide any associated market share or other benefits. It was not the case, for instance, that the lowest bidder won exclusive rights to supply the ODB with its version of the drug.<sup>4</sup> Instead, the mechanism benefited pharmacies; since there were usually several generic firms supplying an interchangeable drug, firms competed for the right to supply pharmacies with the drug.<sup>5</sup> Firms competed by offering off-invoice rebates and various other incentives<sup>6</sup> that reduced the pharmacy’s drug acquisition cost below the drug plan reimbursement price.

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<sup>2</sup> Grootendorst P, Di Matteo L. The effect of pharmaceutical patent term length on research and development and drug expenditures in Canada. *HealthCare Policy* 2007; 2(3):63-84.

Segal HJ. The Canadian health care system: The pharmacy experience. *Journal of Research in Pharmaceutical Economics* 1994; 5(3): 51-68.

<sup>3</sup> See Chapter 3 of Gorecki PK. *Controlling Drug Expenditure in Canada: The Ontario Experience*. Ottawa: Ministry of Supply and Services, 1992. Prior to the introduction of the ODB in 1974, the Ontario government published and distributed to physicians and pharmacists the *Comparative Drug Index* (CDI). The CDI, published semi-annually, “listed the prices of different brands of particular dosage form and strength. Only drugs of a quality deemed acceptable by the Drug Quality and Therapeutics Committee—an independent body composed of health professionals—were listed.” (page 21) Gorecki notes further that in 1972 the provincial *Pharmacy Act* was amended to require the pharmacist to “supply a product at a price not in excess of the listed price [in the CDI] for the lowest-priced interchangeable pharmaceutical product in their inventory” (page 22).

<sup>4</sup> Such a procurement system would appear to lower retail prices of generic drugs. A report of the Auditor General of Ontario found that the price of generic drugs paid by the Saskatchewan government drug plan (which used a tendering system to procure multi-source drugs) was lower than prices paid by the Ontario government drug plan (which used a formulary system to procure multi-source drugs). The report stated: “The Ministry had not reviewed the effectiveness of its generic pricing practices or routinely compared the prices it was paying for drugs with the prices paid by other jurisdictions. For instance, for a sample of generic drugs, we noted that Saskatchewan’s prescription drug plan prices were on average 50% lower than Ontario’s. We estimated that the Ministry would have saved approximately \$54 million annually had it paid the same price as Saskatchewan for these products.” [source: Ontario Provincial Auditor Annual Report 2001 Section 3.09 Drug Programs Activity. [http://www.auditor.on.ca/en/reports\\_2001\\_en.htm](http://www.auditor.on.ca/en/reports_2001_en.htm)]

<sup>5</sup> Anis AH. Pharmaceutical prices with insurance coverage and formularies. *Canadian Journal of Economics* 1992; 25(2):420-437.

<sup>6</sup> Tax sleuths track down 500 evaders. *The Ottawa Citizen*. Ottawa, Ont.: Feb 28, 1995. pg. E.8

The ODB is the single largest drug plan in Canada and its drug reimbursement affected drug reimbursement policies elsewhere. Over time, the ODB reimbursement price became the norm for generic drug pricing across the country.<sup>7</sup> The prices ODB paid for generic drugs therefore influenced the prices for generic drugs paid by private payors in Ontario and in other provinces as well and hence influenced the rebate amounts accruing to pharmacies across Canada.

### ***Rebates as a share of dispensing revenue***

Rebates have been a fixture of pharmacy remuneration since the early 1970s<sup>8</sup> and although there are no official rebate figures, it appears that rebates have constituted a significant share of pharmacy dispensing revenues. There is evidence that, until the ODB and other drug plans attempted to reduce rebates in late 2006, rebates ranged from 40% to 60% of the generic drug price paid by consumers.<sup>9</sup> IMS Health estimates that the retail price of a generic drug prescription was \$25 on average in 2006;<sup>10</sup> the professional fee and markup amounts combined might be \$9, so that the drug invoice price would be \$16. If we use 50% as a typical rebate amount, then a pharmacy would earn in the order of \$8, on average, in rebate income per generic drug dispensed. According to a recent national survey of pharmacy owners and

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<sup>7</sup> See Ontario. *Report of the Commission on the Pricing of Multiple-Source Drug Products in Ontario* (Gordon Commission). Toronto: mimeo, 1984. Page 37-38: "... third-party payers, whether public or private, often base their drug cost reimbursement to pharmacies on the Index/Formulary price and may, therefore, be paying more than necessary for drug products; pharmacists may charge cash customers drug costs based on the Index/Formulary price, and may, therefore, be receiving reimbursement in excess of that which is deemed appropriate by pharmacists and third-party payers alike..." Gorecki (1992) notes that ODB's reimbursement policies are widely emulated: "This province [Ontario] is arguably the most important, not only because its market is the largest in Canada, accounting for 46 per cent of all drug expenditures in 1987, but also because its policies affect and are followed in other jurisdictions. Thus mistakes or successes in Ontario have the potential to influence all of Canada." (page 3) See also the Competition Bureau of Canada's Generic Drug Sector Study, available at <http://www.competitionbureau.gc.ca/epic/site/cb-bc.nsf/en/02495e.html>

<sup>8</sup> See, for instance, Porter J, Levine NN, Spence JW. Report of the review committee on prescription product substitution. Toronto: mimeo, 1971; Ontario. Report of the Ontario Drug Benefit Formulary Pricing Committee (Bailey Report). Toronto: mimeo, 1978; Gorecki PK. *Regulating the Price of Prescription Drugs in Canada: Compulsory Licensing, Product Selection, and Government Reimbursement Programmes*. Economic Council of Canada Technical Report No. 8. Ottawa: ECC (July), 1981; Maule CJ. *A Survey of the Economics of the Retail Pharmacy Sector in Canada*. Background report prepared for the Commission of Inquiry on the Pharmaceutical Industry (Eastman Commission), Ottawa: 1986.

<sup>9</sup> Silversides A. Pharmacies receiving massive rebates from generic drug-makers. *Canadian Medical Association Journal* 2006; 175(4):342-343. See also the letter from Vernon Chiles, Green Shield Canada, to the PMPRB, dated 9 May 2005, available at <http://www.greenshield.ca/NR/rdonlyres/E8DCE938-3672-40E8-9934-4D08F6B98F14/0/AdvocacyMay2005PMPRB.pdf>

<sup>10</sup> IMS Health, Canada, CompuScript. 2008. [http://www.imshealthcanada.com/vgn/images/portal/cit\\_40000873/7/63/79016660Trends12\\_En\\_07CORR.pdf](http://www.imshealthcanada.com/vgn/images/portal/cit_40000873/7/63/79016660Trends12_En_07CORR.pdf).

managers, the average pharmacy fills about 60,000 prescriptions annually (Table 1). IMS Health reports that roughly half of all prescriptions filled nationally are for generic drugs,<sup>11</sup> so that the pharmacy filling 30,000 generic prescriptions annually would earn in the order of \$240,000 ( $\$8 \times 30,000$ ) annually in rebate income and an additional \$270,000 ( $\$9 \times 30,000$ ) from professional fees and markups on the dispensing of these generic drugs. Rebate earnings can also accrue from the sale of brand name drugs. Industry sources consulted for this study indicated that some brand name drug manufacturers have used pharmacy rebates to increase sales of off-patent drugs.

Aggregate spending on generic drug rebates appeared to be substantial prior to the recent drug plan attempts to restrict rebates. There are about 8,000 community pharmacies in Canada<sup>12</sup>; if the average pharmacy earned about \$240,000 in rebate income, then aggregate rebate income was in the order of \$2 billion. Moreover, had drug plans not attempted to restrict rebates, rebate earnings would likely have increased in the future. The imminent patent expiry of Lipitor and several other blockbuster drugs, coupled with the resulting competition among generic firms selling copies of these drugs, would have likely created additional rebate income, as would the steady increase in prescription drug use that will accompany the aging of the baby boom cohort.

### ***Government policy concerning rebates***

As we mentioned, several provincial government drug plans have attempted to reduce the amount that they pay for generic drugs. Although the plans have taken different approaches to reduce generic drug reimbursement prices, all have targeted generic drug rebates, either directly or indirectly. For instance, the Quebec provincial drug plan, RAMQ, initially made rebates illegal,<sup>13</sup> but has since permitted a rebate equal to 20% of generic sales provided that these be used to fund patient-related professional services. ODB also allows a 20% rebate on the generic drugs that it reimburses provided that the rebate be used to fund patient-related professional services. ODB also requires that rebates on non-ODB drug sales in Ontario be used for patient-related services; however, there is no limit on the size of these rebates. ODB

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<sup>11</sup> IMS Health, Canada, *CompuScript*. 2008.

[http://www.imshealthcanada.com/vgn/images/portal/cit\\_40000873/8/0/79016663Trends13\\_En\\_07CORR.pdf](http://www.imshealthcanada.com/vgn/images/portal/cit_40000873/8/0/79016663Trends13_En_07CORR.pdf)

<sup>12</sup> <http://www.napra.org/docs/0/86/363.asp>.

<sup>13</sup> Competition Bureau Canada. *Background - Generic Drug Sector Study*. <http://www.competitionbureau.gc.ca/epic/site/cb-bc.nsf/en/02507e.html>

has also capped reimbursement of multi-source drugs at 50% of the brand drug price.<sup>14</sup> The Quebec provincial drug plan, RAMQ, receives the same 50% discount owing to RAMQ's requirement that it pay no more than that paid by any other drug insurer in Canada.<sup>15</sup>

Public drug plans have also attempted to reduce rebates by introducing competitive tenders for certain drugs. Pharmacare, the BC public drug plan, has recently introduced a competitive tendering system for olanzapine, an off-patent prescription drug.<sup>16</sup> The ODB has also put out a tender for four molecules.<sup>17</sup>

It is unclear whether policies that ban rebates will be universally effective in reducing rebate income. One could imagine that pharmacy chains that operate in several provinces can continue to earn rebate income on generic drug sales in provinces that regulate rebates but realize and report these earnings in provinces not subject to such restrictions. A second question relates specifically to the effectiveness of Ontario's restriction that rebates be used to fund patient services. The policy, enshrined in *The Final Reporting Framework for Professional Allowances* (March 2008), permits rebate income be used for 1) pharmacy/pharmacist programs; 2) private counselling areas; 3) compliance packaging; and 4) pharmacy staffing costs.<sup>18</sup> On this last item, pharmacy staff costs are calculated as the percent of time spent on direct patient care activities, and can include wages, benefits and bonuses. A substantial proportion (estimated to be about 37%) of a pharmacist's time is already spent in patient care

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<sup>14</sup> Ministry of Health and Long-Term Care of Ontario. (2008). *Ontario Public Drug Programs: The Government's Plan to Reform Ontario's Drug System*. Retrieved May 16, 2008 from [http://www.health.gov.on.ca/english/providers/program/drugs/plan\\_reform\\_ods/ensuring\\_generic\\_drug\\_products.html](http://www.health.gov.on.ca/english/providers/program/drugs/plan_reform_ods/ensuring_generic_drug_products.html)

<sup>15</sup> According to Règlement sur les conditions de reconnaissance d'un fabricant de médicaments et d'un grossiste en médicaments (Loi sur l'assurance-médicaments), Annexe I, Engagement de fabricants, "Le prix de vente garanti ... ne doit pas être supérieur à tout prix de vente consenti par le fabricant pour le même médicament en vertu des autres programmes provinciaux d'assurance de médicaments." (The price must not be higher than any price granted for the same medicine by the manufacturer to other provincial drug insurance programs.)

<sup>16</sup> Hollis A. *The use of secret rebates by provincial drug insurance agencies: what impact on patients?* Policy Brief No. 08001, Institute for Advanced Policy Research, University of Calgary, June 2008. <http://www.iapr.ca/>

<sup>17</sup> These drugs are Enalapril (brandname Vasotec), Ranitidine (Zantac), Metformin (Glucophage), and Gabapentin (Neurontin). [http://www.health.gov.on.ca/english/providers/program/drugs/opdp\\_eo/notices/stakeholder\\_briefing.pdf](http://www.health.gov.on.ca/english/providers/program/drugs/opdp_eo/notices/stakeholder_briefing.pdf)

<sup>18</sup> <http://www.ocpinfo.com/client/ocp/OCPHome.nsf/web/Laws+&+Regulations>



activities<sup>19</sup> so that the allowable rebates likely could be used to cover existing personnel costs.

## ***The economics of community pharmacy***

In order to assess the effect of rebates on community pharmacy, it is useful to describe the economic landscape of the pharmacy industry in Canada. The pharmacy industry operates within a market characterized by an unusual degree of government involvement in all stages of the use of prescription drugs. The extent of government intervention can be described in broad-brush terms as follows. First, government has conferred on physicians, dentists and other groups of health care providers exclusive rights to prescribe medications to consumers. Pharmacists and pharmacies have exclusive rights to sell medications to consumers and, as we mentioned, are permitted and occasionally required to substitute an interchangeable product. Second, government directly subsidizes the drug costs of the indigent, seniors and various other groups and indirectly subsidizes the drug costs of labour market participants by exempting employer-provided prescription drug benefits from income taxation. (A dollar remuneration paid to an employee is taxed at the employee's marginal tax rate; the same dollar paid as a drug benefit is not taxed.) This tax subsidy has likely expanded the use of private drug insurance coverage.<sup>20</sup>

Next, we examine in more detail the economic aspects of the community pharmacy industry.

## ***The supply of pharmacy services***

### ***What are the 'outputs' of community pharmacy?***

Pharmacies have traditionally produced two types of output: prescription medication dispensing services and the provision of consumer goods (though the pharmacy's 'front shop').

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<sup>19</sup> According to a recent national survey of pharmacists (McKesson Canada. *Trends and Insights 2007*), pharmacists typically spend 40% of time dispensing and 37% of time counselling patients (prescription, nonprescription and special services).

<sup>20</sup> Stabile M. Private insurance subsidies and public health care markets: evidence from Canada. *Canadian Journal of Economics* 2001; 34(4):921–42.  
Finkelstein A. The effect of tax subsidies to employer-provided supplementary health insurance: evidence from Canada. *Journal of Public Economics* 2002; 84(3):305–39.

Pharmacies are beginning to offer a third type of output: medication counseling, which is provided independently from drug dispensing.

Dispensing services include the range of activities that accompany the provision of a medication to a patient: checking the prescription for errors, filling the prescription, adjudication of drug insurance claims on behalf of the consumer, provision of information on appropriate medication use, assessment of potential medical contraindications, drug interactions, and adverse drug reactions, and, when warranted, communication with the prescriber to discuss these and other patient care matters. This constitutes the core set of dispensing services. Some pharmacies offer medication delivery services and other ancillary services.

Consumer goods include products that are sold exclusively in pharmacies: Schedule II medicines (pharmacist must intervene prior to sale, product available in pharmacies only behind dispensing counter), and Schedule III medicines (sold over the counter but pharmacist must be available to provide advice), as well as items that are sold by other retailers. These items include: health and personal care items, beauty aids, newspapers, greeting cards and other paper goods, groceries, giftware and houseware. Some pharmacies have developed a competitive advantage by increasing the depth of their product offerings of consumer goods. For instance, a pharmacy might stock a larger variety of shampoos than would a mass merchandiser, the latter retailer often choosing to sacrifice depth for breadth of product offerings.<sup>21</sup>

Medication counseling is a nascent service offering. The provision of this service is being encouraged by government subsidies. The Canada Revenue Agency now recognizes outlays on pharmacist cognitive services as being eligible for medical expense tax credits.<sup>22</sup> Governments are remunerating pharmacists for the provision of patient counseling, independent of drug dispensing.<sup>23</sup> The Ontario government, for instance, has introduced MedsCheck,<sup>24</sup> a medication reconciliation program that compensates pharmacists \$50 to review the medication use of patients presenting with a chronic condition who use 3 or more prescription medicines.

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<sup>21</sup> Dickson, page 13.

<sup>22</sup> Solutions in Drug Plan Management 2004. *Roundtable Report*.  
[http://www.pharmacygateway.ca/conferences/solutions/\\_resources/2004/solutions04\\_rreport\\_medexpense\\_2004.pdf](http://www.pharmacygateway.ca/conferences/solutions/_resources/2004/solutions04_rreport_medexpense_2004.pdf)

<sup>23</sup> Kroger E, Moisan J, Gregoire J-P. Billing for Cognitive Services: Understanding Quebec Pharmacists' Behavior. *The Annals of Pharmacotherapy* 2000; 34:309-316.

<sup>24</sup> Ontario Pharmacists Association. *Introducing the Meds Check Program*.  
[http://www.health.gov.on.ca/english/providers/pub/drugs/meds\\_check/pdf/guide\\_medscheck.pdf](http://www.health.gov.on.ca/english/providers/pub/drugs/meds_check/pdf/guide_medscheck.pdf)

Another emerging service is medication prescribing. Until recently, pharmacists had limited influence on medication use and were relegated to dispensing the drug product that the prescriber had selected. This was in part due to the existence of a professional legal framework that delineated the roles of pharmacists and physicians; in this framework, pharmacists were excluded from the prescribing process 'upstream' of the actual writing of the prescription.<sup>25</sup> This is now changing. Pharmacists in some provinces are now legally permitted to prescribe certain prescription medicines.<sup>26</sup>

## ***Costs of producing the outputs***

We next turn to the factors affecting the community pharmacy's operating costs. Costs of dispensing can be categorized as being either fixed or variable. Fixed costs do not depend on the scale of production; variable costs do.

The fixed costs of running a pharmacy include the costs of maintaining an inventory of the range of prescription drugs that are commonly prescribed; the costs of operating a billing system; the costs of a pharmacist who legally must be on the premises during business hours; the cost equipment required for accreditation by provincial regulatory authorities; and the cost of marketing, insurance, rent, fixtures and utilities. The variable costs of dispensing are primarily additional personnel costs – a larger prescription volume requires more workers and with a larger complement of personnel comes the attendant costs of managing, scheduling and training these personnel, and the cost of drugs dispensed.

The three primary types of pharmacy personnel, licensed pharmacists, pharmacy technicians, and cashiers are distinguished by their skill sets and the wages that they command. According to a recent survey, the average salary of a pharmacist working full-time in a retail pharmacy in 2006 was \$42.75/hr, while relief pharmacists commanded \$50.10/hr. The

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<sup>25</sup> Evans RG. *Strained Mercy: The Economics of Canadian Health Care*. Toronto: Butterworths, 1984. [http://www.chspr.ubc.ca/files/publications/1997/Strained\\_Mercy/index.html](http://www.chspr.ubc.ca/files/publications/1997/Strained_Mercy/index.html) (chapter 10)

<sup>26</sup> Kondro W. Canada's doctors assail pharmacist prescribing. *Canadian Medical Association Journal* 2007; 177(6):558. <http://www.cmaj.ca/cgi/content/full/177/6/558>.

Lynas K. Pharmacist prescribing authority to take effect in Alberta. *Canadian Pharmacists Journal* 2007; 140(1):13.

Allied Health '07. Alberta Pharmacists' Survey: Majority Will Prescribe. <https://healthcareersinteraction.com/MiniAlliedHealth/themagazine/07AlliedHealth/p31-AlbertaPharmacists.pdf>

dispensary technician's hourly wage ranged between \$12.51- \$13.57, whereas the average cashier earned about \$10/hr.<sup>27</sup>

To minimize the costs of dispensing, the pharmacy can substitute lower-salaried technicians and sales clerks for pharmacists, subject to legal requirements that a pharmacist oversee the filling of each prescription and be available to counsel patients where needed. Data assembled by the Canadian Association of Chain Drug Stores (CACDS)<sup>28</sup> suggest that of the 85,254 individuals employed in traditional standalone pharmacies nationwide (i.e., pharmacies that were not located within a grocery or large mass merchandiser), 12% (9,879) were pharmacists, 15% (12,791) were dispensary technicians, and the remaining 73% (62,584) were clerks and other sales staff. The National Association of Pharmacy Regulatory Authorities (NAPRA) reports on the number of pharmacists that work in retail pharmacies and the number of licensed retail pharmacies. The NAPRA data suggest that there are between 2-3 licensed pharmacists per retail pharmacy (Table 3); the ratio varies somewhat by province.

### ***Economies of scale in dispensing volumes***

An advantage of a larger dispensing volume pharmacy is that fixed costs are spread out over this larger dispensing volume, so that average fixed costs per prescription filled decline. Recent surveys of pharmacies in the provinces of British Columbia and Ontario provide insights into the scale economics that can be exploited (Table 4). Analysis of the BC survey data suggests that at the lowest dispensing volumes in the province (pharmacies dispensing under 20,000 prescriptions annually, or about one third the national average volume), the average total (fixed + variable) cost is about \$20 per prescription. Average total cost declines to about \$5 per prescription for pharmacies dispensing the highest prescription volumes (>180,000 prescriptions annually, or about three times the national average). (See Figure 1.) Economies of scale were also evident among Ontario pharmacies that responded to the survey.

Some fixed costs, notably the costs of staff recruiting and training, marketing, inventory management and other management services, can be shared across different pharmacies. Pharmacies routinely participate in consortia to share these costs (Table 5). Indeed data from IMS Health suggest that in 2007, 79% of pharmacies participated in such consortia. In

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<sup>27</sup> McKesson Canada. *Trends and Insights 2006*.  
[http://www.mckesson.ca/documents/Trends\\_2006.pdf](http://www.mckesson.ca/documents/Trends_2006.pdf)

<sup>28</sup> CACDS State of the Industry Report 2004.

particular, 59% of pharmacies were banner, franchise, chain operations and 20% were pharmacies operating inside food retailers and mass merchandisers.<sup>29</sup> Such pharmacies are also the fastest growing segment of the pharmacy market. Conversely, the independent pharmacy share of the market is declining. In 2001, 25% of the pharmacies in Canada were independents; independents' market share declined to 21% by 2007. This recent decline in the independent pharmacy share of the market continues a long-term trend. Maule reports that independents had 78% of the market in 1964 and 61% in 1983.<sup>30</sup>

## ***The demand for pharmacy services***

A novel characteristic of consumer demand for dispensing services is that an important determinant of that demand, the number of prescriptions written by prescribers, is outside the control of pharmacies (although, as noted earlier, recently pharmacists have been granted some limited prescribing rights). Pharmacies can, however, compete for a share of this fixed demand by attracting customers on the basis of: 1) location and other dimensions of consumer accessibility; 2) the retail price of the prescription (inclusive of drug invoice cost, markup, and professional fee); 3) the price and range of consumer goods offerings; 4) the quality of dispensing services; and 5) advertising, although price advertising of prescription drugs and pharmacist services is severely constrained by pharmacist professional regulation. We discuss each in turn.

## ***Location and other dimensions of consumer accessibility***

Consumer accessibility is an important characteristic of community pharmacy. Accessibility includes physical proximity and convenience to the patient/consumer, extended hours of operation, and amenities such as the availability of parking, and store layout. As evidence of the importance of consumer accessibility, it is not uncommon for a pharmacy to adjoin a medical clinic (i.e. locate close to a prescriber), or a grocery, department store, or other retail outlet (i.e. locate close to where the patient would normally shop), or at the base of a large office tower (i.e.

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<sup>29</sup> See IMS Health, Retail pharmacies by outlet type, Canada, 2001-2007  
[http://www.imshealthcanada.com/vgn/images/portal/cit\\_40000873/7/59/79016648Trends08\\_En\\_07.pdf](http://www.imshealthcanada.com/vgn/images/portal/cit_40000873/7/59/79016648Trends08_En_07.pdf)

<sup>30</sup> Maule C.J. *A Survey of the Economics of the Retail Pharmacy Sector in Canada*. Background report prepared for the Commission of Inquiry on the Pharmaceutical Industry (Eastman Commission), Ottawa: 1984.

locate close to where the patient works). Indeed, Dickson writes: “The primary driver of pharmacy success has traditionally been location”.<sup>31</sup>

## ***Retail prescription drug prices***

A novel characteristic of consumer demand for dispensing services is that many consumers have insurance coverage that covers some or all of the retail price of the prescription.<sup>32</sup> Consumers’ prescription price depends on the nature of their insurance coverage. Fully insured consumers pay nothing (the insurer covers the cost) so that pharmacy location, dispensing service and other characteristics alone influence demand. Partially- or non-insured consumers would presumably consider both out-of-pocket (OOP) prescription price and pharmacy characteristics when deciding where to fill a prescription.

Even though many consumers do not have complete insurance coverage against prescription drug costs, it appears that a substantial majority of Canadians would not choose a pharmacy primarily on the basis of prescription prices. According to a consumer survey reported in a pharmacy management textbook<sup>33</sup> the ‘pharmacist’s fee’ was judged to be among the least important factors when deciding where to fill a prescription. Only 32% of respondents judged the fee to be a very important characteristic and 22% rated the fee to be not at all important. Why might this be the case? We suspect that most Canadians have some drug insurance coverage that, although not completely comprehensive, would not result in there being large differences in OOP costs depending on their choice of pharmacy. Moreover, we suspect that most affluent consumers would likely be willing to pay nominally extra for convenient location and other valued pharmacy characteristics.

As evidence for our view, consider senior beneficiaries of the ODB. Higher income seniors are required to pay a \$100 deductible, and \$6.11 per prescription co-pay thereafter. It is true that seniors face 100% of the first \$100 of annual drug costs, so that they might have an

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<sup>31</sup> Dickson RM. *The opportunity for retail drug store development in rural British Columbia*. MBA Thesis, Simon Fraser University, 2005. [ir.lib.sfu.ca/retrieve/2197/etd1850.pdf](http://ir.lib.sfu.ca/retrieve/2197/etd1850.pdf)

<sup>32</sup> Canadian Institute for Health Information, *Drug Expenditure in Canada, 1985 to 2007* (Ottawa: CIHI, 2008). [http://secure.cihi.ca/cihiweb/dispPage.jsp?cw\\_page=AR\\_80\\_E&cw\\_topic=80](http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=AR_80_E&cw_topic=80) (Table 1 Distribution of Prescribed Drug Expenditure by Source of Finance, Canada, 1988 and 2007). According to CIHI, drug insurers and other ‘third party’ payors covered about 83% of prescription drug costs in 2007. According to the Competition Bureau (2007), 98% of Canadians have some form of drug insurance coverage that pays for all or part of the cost of prescription drugs.

<sup>33</sup> See Table 9.1 of Bachynsky JA, Segal HJ. *Pharmacy management in Canada*. Second Edition. Toronto: Grosvenor House, Inc, 1998.

incentive to search for lower priced prescriptions. However, most seniors will incur more than \$100 in total drug costs annually, and once they reach their deductible, each prescription costs the co-pay alone. So if a senior anticipates consuming drugs worth more than \$100 annually, then s/he would have no incentive to economize on the first \$100 on drug spending. Indeed, according to the ODB, the average senior beneficiary consumes drugs worth over \$1,600 annually.<sup>34</sup> The average prescription dispensed to a senior costs \$43, so that the beneficiary would typically exceed their deductible after filling their third prescription of the year.

The idea that deductibles might not affect drug use has been studied in the literature. Ellis (1986) demonstrated that a forward-looking patient who expects to exceed the deductible would treat the marginal cost of all drugs used as zero – the deductible then affects drug use only through an income effect. There is empirical evidence that consumers do in fact behave this way; hence if the deductible does not constitute a large share of income, then the deductible will not have an appreciable effect on drug use. In particular, Contoyannis et al. (2004), Ellis (1986) and Kephart (2006) provide empirical evidence supporting this model.<sup>35</sup>

The use of deductibles is but one form of prescription drug cost sharing. A variety of other forms of cost sharing have emerged, including co-payment (a fixed fee per prescription), and co-insurance (a proportion of ingredient cost and/or professional fee). How sensitive is drug use to these forms of cost sharing? The consensus from the literature is that for most individuals, prescription drug use is quite insensitive to drug prices. The price sensitivity of drug use is often measured using an ‘elasticity’, which is defined as the percentage change in drug use due to a 1% increase in drug user fees. Hence an elasticity of –0.3 means that a 10% increase in fees would reduce drug use by 3%. This measure facilitates comparison of studies with heterogeneous drug fee and outcome measurement units.

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<sup>34</sup> See page 34 of the [2005-2006 Report Card for the Ontario Drug Benefit Program](http://www.health.gov.on.ca/english/public/pub/ministry_reports/odb_report05/odb_rep_05_06.pdf)  
[http://www.health.gov.on.ca/english/public/pub/ministry\\_reports/odb\\_report05/odb\\_rep\\_05\\_06.pdf](http://www.health.gov.on.ca/english/public/pub/ministry_reports/odb_report05/odb_rep_05_06.pdf)

<sup>35</sup>Ellis RP. 1986. "Rational behavior in the presence of coverage ceilings and deductibles," *RAND Journal of Economics*, vol. 17(2), pages 158-175, Summer.

Kephart G, Skedgel C, Sketris I, Grootendorst P, Hoar J. Effects of copayments on the use of prescription drugs in the presence of annual payment limits: can potential risks to patients be reduced? *American Journal of Managed Care* 2007; 13(part 2):328-334.

Contoyannis P, Hurley J, Grootendorst P, Jeon S, Tamblyn R. Estimating the price elasticity for prescription drugs in the presence of non-linear price schedules: An illustration from Quebec, Canada. *Health Economics* 2005; 14(9):909-23.

In a recent review of the literature, one of us (PG) wrote:<sup>36</sup>

“The evidence suggests that for most individuals, modest charges have a less than proportional effect on drug use:  $\eta$  [the own price elasticity of demand for prescription drugs] is likely between -0.1 to -0.3 (Smith and Kirking, 1992; Gerdtham and Johannesson, 1996). The small response could reflect small income effects, limited substitution opportunities or high marginal valuation of health. The small response could also reflect patient adaptation to the cost sharing scheme. For instance, when faced with a co-payment, patients can economize by filling fewer, but larger prescriptions.”

In general, non-indigent, relatively healthy individuals are the least sensitive to drug user fees. The indigent and unhealthy, on the other hand, may very well be very sensitive to differences in drug prices. As evidence of this, some pharmacies in Ontario waive the \$2 professional fee copayment paid by social assistance and low income senior ODB beneficiaries.

### ***The role of regulated prescription prices***

Although pharmacies have some discretion in prescription service pricing for cash paying customers and private plan beneficiaries, the situation for beneficiaries of the provincial drug plans is different. These plans typically subsidize the drug costs of seniors, the indigent, and others with high drug costs relative to income; they cover about 40% of total prescription drug spending nationally, although their share varies by province and territory (see Table 2). Importantly, these plans have much discretion over reimbursement prices of formulary drugs, professional fees and margins on formulary prices (a 10% markup in Ontario, but recently reduced to 8%).<sup>37</sup> Moreover, provincial governments typically do not allow pharmacies to ‘extra bill’ beneficiaries of the provincial government drug plans. In other words, if the pharmacy’s usual professional fee is \$11 and the provincial government allows for a \$7 professional fee, the pharmacy is not permitted to bill the provincial government drug plan beneficiary the \$4 difference.<sup>38</sup> The ‘extra billing’ constraint does not apply to beneficiaries of private drug plans:

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<sup>36</sup> Grootendorst P. Prescription drug insurance and reimbursement. in Andrew Jones, ed. *The Elgar Companion to Health Economics*. Cheltenham, UK: Edward Elgar Publishing Limited, 2006.

<sup>37</sup> Appendix 1 describes the professional fee and markups allowed by the provincial government drug plans.

<sup>38</sup> See, for instance, Ontario Drug Benefit Program. *Ontario Drug Benefit Act*.

[http://www.e-laws.gov.on.ca/html/regs/english/elaws\\_regs\\_960201\\_e.htm](http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_960201_e.htm)

Alberta Health Care Insurance Act. Alberta Blue Cross. [https://www.ab.bluecross.ca/ip\\_drug.html](https://www.ab.bluecross.ca/ip_drug.html)

PharmaCare Program. Continuing Care Act. <http://www.health.gov.bc.ca/pharme/policy.html#2>



Pharmacies can charge such beneficiaries higher professional fees. The provincial drug plans, however, do influence private plans. The professional fee, markup, and in some cases, the formulary (the list of drugs covered by the drug plan) used by the private drug plans is in some cases modeled on the provincial government plan.

### ***Prices of consumer goods***

The demand for consumer goods is qualitatively different than the demand for prescription drugs. These goods are typically not insured so that consumers would typically pay the actual retail price. Moreover, because pharmacies face competition from other retailers in the sale of personal care items and other non-scheduled products, one would expect that consumers' price elasticity for these products is higher than for scheduled drugs.

### ***Quality of dispensing services and consumer goods***

Another dimension over which pharmacies compete for customers is the quality of dispensing services and consumer goods. The quality of dispensing service is a particularly important pharmacy characteristic. Although pharmacies are obliged to provide a minimum level of counseling for each prescription dispensed, some pharmacists do provide additional patient care services where warranted. These additional services can include: underscoring the importance of compliance with the label instructions, monitoring for adverse events and managing the illness appropriately. Seventy six per cent of respondents to a consumer survey<sup>39</sup> indicated that the provision of information on medicine use by the pharmacist was a very important factor when deciding where to fill a prescription. Sixty eight percent indicated that the pharmacist having access to the patient's complete prescription history was very important and 67% indicated that the pharmacy having the medication available to dispense was very important. Locational factors were the second most important pharmacy characteristic: 54% indicated that the proximity of the pharmacy to home or work was a very important factor when deciding where to fill a prescription. The variety of consumer goods offerings was a markedly less important characteristic—only 31% of respondents indicated that this was a very important

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Régie de l'assurance maladie du Québec (RAMQ).  
[http://www.coughlin.ca/publications/pdfs/C\\_Courier\\_1207\\_E.pdf](http://www.coughlin.ca/publications/pdfs/C_Courier_1207_E.pdf)

<sup>39</sup> See Table 9.1 of Bachynsky JA, Segal HJ. *Pharmacy management in Canada*. Second Edition. Toronto: Grosvenor House, Inc., 1998.

characteristic. As we mentioned, only 32% of respondents judged the fee to be a very important characteristic and 22% rated the fee to be not at all important.

## **Advertising**

Although some forms of pharmacy advertising are highly restricted, most notably comparative price and service advertising<sup>40</sup>, others remain available, for example, flyers and mass media advertising on other dimensions such as prices of consumer goods and disease management seminars. Rebates provide additional incentive for these pharmacies to engage in such activities.

## **Evidence on competition and profits in the Canadian community pharmacy industry**

The Canadian community pharmacy industry, taken as a whole, appears to be profitable. This was the conclusion of two reports, one conducted in 2003 and the other in 2005.<sup>41</sup> The 2003 CIBC investment report suggests that the industry enjoys above normal profits, which it attributes to “Favourable regulatory environments, more experience with competitive pricing, a positive political mood and renewed store development ...”<sup>42</sup> Another commentator concluded

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<sup>40</sup> Ontario pharmacies, for instance, are allowed to advertise prescription prices but must comply with various restrictions on the nature of the advertisement. Specifically, a pharmacy that elects to advertise drug prices must advertise price information for at least 15 different drugs, 10 of which belong to a different one of the following drug classifications: anti-infective agents, anti-neoplastic agents, autonomic agents, blood formation & coagulation drugs, cardiovascular drugs, central nervous system drugs, cough preparations, diagnostic agents, electrolytic, caloric and water balance drugs, eye, ear, nose and throat preparations, gastrointestinal drugs, gold compounds, heavy metal antagonists, hormones and substitutes. Each price must be given equal prominence on the ad. [*Drug and Pharmacies Regulation Act*. Regulation 297/96]. Furthermore, Section 29 of the *Professional Misconduct Regulation* of the Ontario College of Pharmacists prohibits: “Offering or distributing, directly or indirectly, a gift, rebate, bonus or other inducement with respect to a prescription or prescription services.” An exception is made for pharmacies that reimburse parking charges for a client who is having a prescription filled, as long as such reimbursement is not advertised. The view of the Ontario College is that it is in the patient’s best interest to stay with “one pharmacy, that best meets the patient’s health care needs and is the custodian of all the patient’s health information.” See:

[http://www.ocpinfoc.com/client/ocp/OCPHome.nsf/object/PCxJulAug2003/\\$file/PCxJulAug2003.pdf](http://www.ocpinfoc.com/client/ocp/OCPHome.nsf/object/PCxJulAug2003/$file/PCxJulAug2003.pdf)

The provincial regulatory authorities do take different approaches. For instances, pharmacies in British Columbia are permitted to offer and advertise reward and loyalty programs on prescription drug sales. See, for example, the advertisement from the Peoples Drug Mart pharmacy in Victoria, BC:

<http://www.peoplesdrugmart.com/peoplesfirst/index.htm>

<sup>41</sup> We are not aware of any analyses of industry profitability conducted since the recent attempts by provincial governments to appropriate pharmacy rebate income.

<sup>42</sup> Caicco P, Wong K, Piticco R. *2003 Investors' guide to the Canadian drugstore industry*. Toronto: CIBC World Markets Inc. (Equity Research)

in 2005: “The Canadian drug store industry is very attractive and should experience significant growth.”<sup>43</sup>

The apparent profitability of the industry can be interpreted in light of several features of the market in which community pharmacies operate. First, because of widespread drug insurance coverage, many consumers do not have an incentive to search for low cost pharmacies. Pharmacies therefore tend not to compete on drug prices. Instead they tend to compete on other dimensions: location, business hours and other factors that affect consumer access costs; the availability of ancillary patient care services; the breadth and depth of consumer goods offerings; brand image, advertising, store attractiveness and other such dimensions of quality. In other words there is substantial product/service differentiation and this allows the pharmacy some discretion in its pricing. A pharmacy with particularly attractive location and other characteristics can charge higher prices without losing all of its customers to rivals.

Second, explicit advertising of retail prescription drug prices (i.e. professional fee, markup and drug ingredient costs) appears to be discouraged by regulatory bodies in most provinces. Thus pharmacies that offer low drug prices might not be able to attract uninsured and other price-sensitive consumers. Advertising restrictions likely operate in concert with the differentiated goods aspect to allow for some discretion in prices charged for prescription drugs.

Third, public drug plan formularies facilitate uniform pricing of the drug ingredient portion of the retail prescription price. In particular, prior to the October 2006 policy changes by the ODB, the drug ingredient reimbursement prices listed in the ODB formulary set the prices charged by most pharmacies to all customers. In effect, the formulary prices served to coordinate the drug ingredient pricing decisions of individual pharmacies and further discouraged price competition.

Fourth, a competitive market is characterized by free entry of firms into the industry, so that firms enjoying above-normal profits will soon find these profits dissipated by the entry of additional firms into the sector. Entry into the community pharmacy industry in Canada, however, is partially restricted so that above-normal profits (from, for example, rebate earnings) could be sustained. One factor that could constrain entry is the presence of fixed costs in opening and operating a pharmacy.<sup>44</sup> Given that pharmacies compete in geographically-defined

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<sup>43</sup> Dickson, page 41.

<sup>44</sup> Dickson writes (page 31): “There are significant capital requirements to open new drug stores. The required opening inventory combined with computer equipment and store fixturing costs can easily surpass \$1 million per location. Even small medical clinic type pharmacies will require half a million

markets, it is possible that profits in a particular geographical market are above-normal but not sufficiently large to generate the revenues needed for an entrant to cover its fixed costs.

Fifth, some pharmacies may operate at relatively low average costs and thereby enjoy above normal profits. Average costs could be low for several reasons. The first is that the pharmacy operates at a relatively high dispensing volume and hence faces low average fixed costs per prescription dispensed. The second is that the pharmacy has joined a franchise or some other consortium that shares inventory management and other fixed costs across a number of pharmacy outlets. The third reason is that the 'opportunity cost' of the pharmacy owner – the value he or she attaches to her next best line of work – could be particularly low. To wit: Most jurisdictions require a majority of pharmacist ownership of a pharmacy.<sup>45</sup> Pharmacists likely vary in their degree of entrepreneurship, i.e., their willingness to tolerate the risk involved in starting a pharmacy business. Some pharmacists can tolerate this risk. Other pharmacists may have a low tolerance to such risk and therefore require the prospect of sufficiently high profits to attract them from a less risky line of work, such as being a salaried staff pharmacist. If profits are less than this, they would prefer to remain in the less risky line of work.

### ***Evidence on the economic aspects of different types of pharmacies***

Data compiled by the McKesson Canada 2006 survey of pharmacy owners afford some insights into the economic aspects of different pharmacy types (Table 6). Profitability data were not reported in the 2006 survey; these data were, however, reported in the 2004 survey (Table 7). It should be noted that these survey data are self-reported, subject to selection bias and are not audited.

Independent pharmacies (typically owner-operated pharmacies) are distinguished by their reliance on sales earned through the dispensary rather than through sales of consumer goods. The dispensing volumes of the independents were well below volumes reported by other stand-

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dollars to open.” Another fixed cost is the remuneration of a licensed pharmacist; a licensed pharmacist is required to be present during business hours.

<sup>45</sup> Restrictions on pharmacy ownership are described at: <http://www.bcpharmacists.org/legislation/provincial/ppods/> (for the province of BC) and <http://www.ocpinfo.com/client/ocp/OCPHome.nsf/d12550e436a1716585256ac90065aa1c/9e594f4af30e908e85256ec80048dfbc?OpenDocument> (for the province of Ontario). The restrictions on pharmacist ownership of a community pharmacy do not appear to be an insurmountable barrier to entry. There are over 31,000 licensed pharmacists in Canada, which is high relative to the number of licensed community pharmacies (about 8,100). [source: <http://www.napra.ca/docs/0/86/363.asp>]

alone pharmacies (i.e. those pharmacies not located within a larger retail outlet like a grocery or department store); this is likely due to their being open fewer hours on average than other pharmacy types. However, the professional fees charged by independents were slightly more than other stand-alone pharmacies. It is not clear from the survey how such pharmacies can charge more and yet remain profitable. One possibility is that they tend to operate in prime locations, have a cadre of loyal customers or perhaps are concentrated in rural markets or others areas with limited competition. Regardless of the actual reason, given the shrinking ranks of independent pharmacies, it seems likely that the remaining independents—the ‘survivors’—do have some sort of competitive advantage. Profits of the independents were reported as \$195K per store in 2004.

Franchise pharmacies, such as Shoppers Drug Mart, are characterized by relatively large front shops, and a correspondingly large share of revenues derived from front shop sales, longer operating hours (85 hours per week relative to the industry average of 67), and large dispensing volumes (40% greater than the industry average). Per store profits of the franchise pharmacies in 2004, \$288K, were second only to the chain pharmacies (\$292K). The CIBC investment report singled out one of the two publically traded franchise pharmacies in Canada, Shoppers Drug Mart, as being particularly profitable due to its superior consumer good offerings and strong management expertise. The chain continues to be profitable despite the recent attempts by governments to reduce rebates on generic drugs.<sup>46</sup> It has the most stores of any pharmacy franchise in Canada (Table 9).

The mean values of prescription volume and other characteristics of the banners and chains fall between the values of the independent and franchise pharmacies.

Pharmacies operating inside grocery stores and mass merchandisers tend to have the lowest dispensing volumes, and charge the lowest professional fees (\$8.10 and \$7.30, respectively). Some of these pharmacies charge particularly low professional fees: according to data assembled by Emergis (presented in Table 8), professional fees in Ontario Costco outlets were \$4.11 in 2006.<sup>47</sup> This is further notable given that the pharmacies with the smallest dispensing volumes in Ontario—those that do not fully exploit scale economies—were reported to incur average dispensing costs in excess of \$20 per prescription (Table 4). So, even with the

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<sup>46</sup> Shoppers Drug Mart Profit Rises 14% In Second Quarter On Strong Sales. *National Post* July 18 2008. [http://www.nationalpost.com/todays\\_paper/story.html?id=659700](http://www.nationalpost.com/todays_paper/story.html?id=659700)

<sup>47</sup> We confirmed that one Costco outlet in Mississauga Ontario is still charging \$4.11 dispensing fee at the time of writing.

addition of rebate and markup income, it would appear that margins on drug dispensing would be slim. Yet according to the 2004 McKesson survey, this group of pharmacies is profitable, although it was the least profitable of all the pharmacy groups surveyed. One possible explanation is that the presence of the pharmacies in these retail outlets attracts additional customer traffic in the other non-pharmacy departments of the retail enterprise. In other words, the pharmacy might be a “loss leader” in the retail operation. Yet another explanation is that rebate income is the primary factor in their profitability.

These different types of pharmacies can also be distinguished by the amount of discretion that the pharmacist exercises in the management and operation of the pharmacy. On the one hand, the ‘owner-operator’—the pharmacist who is both the pharmacy owner and principal supplier of labour—controls pricing, hours of operation, personnel hiring and other economic aspects of the business. On the other hand, pharmacists who operate corporate franchise pharmacies are able to exercise less discretion over these matters; most of these decisions are made by head office.<sup>48</sup> This distinction is important since one might expect that these pharmacies would be run differently. The owner-operator pharmacist might run the business so as to balance the competing objectives of net income, preferred style of practice and hours of work. The pharmacist operating a corporate franchise would likely be more focused on profit maximization, given the explicitly for-profit orientation of its owners and shareholders. The statistics from the McKesson survey hint at these differences. Independent pharmacies were open far fewer hours than the corporate franchise pharmacies.

## ***Impact of market structure on consumer welfare***

As we mentioned, community pharmacies tend to compete for market share on the basis of location, quality of dispensing services, consumer goods offerings and other ‘quality’ characteristics. Price competition is not common owing to widespread drug insurance, advertising restrictions, and formulary pricing. Limited price competition restricts the set of price-quality combinations available to the consumer. If consumers are able to assess quality, consumers’ welfare would be higher if they had more price-quality combinations to choose from.

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<sup>48</sup> Evans suggests that the franchisee, given the constraints imposed by the for-profit orientation of the corporate chain, are in effect corporate employees. See: Evans RG. *Strained Mercy: The Economics of Canadian Health Care*. Toronto: Butterworths, 1984. [http://www.chspr.ubc.ca/files/publications/1997/Strained\\_Mercy/index.html](http://www.chspr.ubc.ca/files/publications/1997/Strained_Mercy/index.html) (chapter 10)

This would benefit uninsured and other price sensitive consumers who would prefer to patronize pharmacies that offered lower levels of quality but lower prescription drug prices as well.

## ***Effects of rebates on the economics of community pharmacy in Canada***

Having described the economic landscape of the Canadian community pharmacy industry, we are in a position to assess the impact that rebates have had on the industry.

The direct impact of rebates has likely been to increase the average revenue (i.e. the retail price) earned for each prescription dispensed relative to the counterfactual world in which pharmacies earned dispensing revenues exclusively from professional fees and markups. Although fees and markups would likely be higher in a world without rebates, the retail price would nevertheless most likely be lower owing to the price setting influence of the ODB reimbursement policies. This increase in average prescription revenue, in turn, has likely affected various economic aspects of the industry, including the number of pharmacies serving a market, the quality of pharmacy services, dispensing costs, pharmacy profits, and pharmacists' wages. We discuss each in turn.

### **Number of pharmacies serving a market**

The higher margins on prescriptions may have attracted additional pharmacies into the industry. These entrants are pharmacies with sufficiently high average dispensing costs such that they would not otherwise be viable—and hence would not have entered the market—without the rebate income. Average dispensing costs of such entrants could be high for several reasons. The first is that the pharmacy operates at a relatively low dispensing volume and hence faces high average fixed costs per prescription dispensed. The second is that the pharmacy needs to pay high wages to the pharmacist to attract them from hospital pharmacy, or some other line of work (or alternatively the owner-operator requires sufficiently high net income to compensate for the risk of starting their own business). The third is that the pharmacy does not exploit all possible opportunities to reduce operating costs, such as joining a pharmacy banner group or some other consortium.

It is illustrative to consider the characteristics of a pharmacy whose profitability hinges on rebate income. Consider, for instance, a low volume pharmacy – one that fills 100 prescriptions daily, half of which are for brand name drugs and the other half being generic. As we outlined earlier, the pharmacy might earn about \$8 in rebates per generic prescription and another \$9 from the professional fee and markup. Suppose that there are no rebates on brand name drugs; revenues from dispensing brand name drugs would therefore come from the markup and professional fee. According to IMS Health, the average prescription for a brand drug costs \$64 in 2007.<sup>49</sup> This total price is consistent with a drug list price of \$50, a markup of \$5 (10% of the list price) and an average professional fee of \$9. So this hypothetical pharmacy would earn on average \$17 on each of the 50 generic drugs dispensed daily and \$14 on each of the 50 brand drugs dispensed, for total net daily dispensing earnings of \$1,550 ( $=\$17 \times 50 + \$14 \times 50$ ). If we use the average cost data presented in Figure 2, the pharmacy might face a total cost of \$14 per prescription so that it would be left with \$150 in profit, plus margins earned on front shop sales. If it lost the \$400 in rebate income, the pharmacy would not likely be viable.

### **Quality of pharmacy services**

Rebates, then, may lead to the entry of new pharmacies in geographically defined market areas. This will benefit consumers. Consumers benefit because an increase in pharmacy choice decreases shopping (i.e. travel and time) costs.<sup>50</sup> Consumers can benefit even if there is no increase in the number of pharmacies serving a market: Because rebates increase the amount earned per prescription dispensed, pharmacies might compete for a larger share of the prescriptions filled in a market. Pharmacies can compete for customers by offering more 'quality', including convenient parking, ancillary patient services such as disease management clinics, free medication delivery, and so on. They will rationally do so until the additional earnings earned from quality enhancement is just equal to the cost of quality enhancement.

### **Average cost of dispensing**

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<sup>49</sup> IMS Health, Canada, CompuScript. 2008. [http://www.imshealthcanada.com/vgn/images/portal/cit\\_40000873/7/63/79016660Trends12\\_En\\_07CORR.pdf](http://www.imshealthcanada.com/vgn/images/portal/cit_40000873/7/63/79016660Trends12_En_07CORR.pdf)

<sup>50</sup> It is also worth recalling here the Ontario College of Pharmacy's view that pharmacy competition for patients is undesirable since, in its view, the patient is best served by maintaining a long-term relationship with one pharmacy. It would therefore appear that rebates are undesirable. Rebates, to the extent that they have increased the number of pharmacies, may have caused some patients to switch to a more preferred pharmacy.



An increase in the number of pharmacies serving a market will increase average dispensing costs of pharmacies in the market. Because the prescription volume in a regional market is spread out over more pharmacies, and each pharmacy incurs a fixed operating cost, the average cost per prescription filled is higher than it would otherwise be.

### **Pharmacy profits**

One possibility is that rebates affect neither the number of pharmacies serving a market nor the quality of pharmacy services. In this case, rebates generate windfall gains to pharmacy owners. This would be the case if the regional market has enough prescription volume to generate revenues to cover the fixed costs of one, but not more than one pharmacy. Another possibility is that an incumbent pharmacy has some quality advantage such that it can retain its market share despite the entry of other pharmacies into the market.

### **Pharmacist wages**

If rebates do attract additional pharmacies into the community pharmacy sector, then this will increase the demand for pharmacists (given that each pharmacy must be staffed by at least one licensed pharmacist). Demand for pharmacists will also increase if pharmacies compete for market share by offering disease management programs, spending more time counseling patients or offering other programs that require pharmacists. This increased demand may increase pharmacist wages; higher pharmacist wages, in turn, will have repercussions for other institutions that employ pharmacists. Higher pharmacist wages will increase the amount that hospital pharmacies, pharmaceutical firms and other employers of licensed pharmacists need to pay to attract pharmacists into their sectors.<sup>51</sup> A related point is that rebates might actually decrease the rate of pharmacist provision of government-funded cognitive services, such as ODB's MedsCheck, previously described. The MedsCheck program pays pharmacists a fee for a 20-minute consultation re patient's medication use. If a pharmacy is operating at full dispensing volume, the opportunity cost to the pharmacy owner of providing such a consultation is the margin on the prescriptions that could be dispensed during the same period of time. If rebates increase margins on drug dispensing, they will decrease the attractiveness of programs like MedsCheck.

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<sup>51</sup> There is some evidence that the shortage of hospital pharmacists is due in part to the high wages commanded by community pharmacists. See: <http://www.canada.com/montrealgazette/news/story.html?id=b7d21b20-9ea6-4b06-b781-7ab94dd8cbfa>

### **Are rebates good or bad for consumers?**

Rebates likely have benefited some and harmed others. Rebates, to the extent that they have raised retail prescription drug prices and pharmacy quality, have undoubtedly benefited consumers who value and are willing to pay for this quality. On the other hand, they have harmed consumers who would prefer lower quality and lower prices.

## ***Effects of a reduction in public drug plan rebates on the Canadian community pharmacy industry.***

We next assess the likely effects of a reduction in public drug plan rebates on the Canadian community pharmacy industry.

### **The number of pharmacies**

A reduction in rebates will likely decrease the average revenue earned for each prescription dispensed; the impact of this would be felt most acutely among marginally profitable pharmacies, i.e. those with relatively high average total costs per prescription dispensed. Just as an increase in rebates would attract or sustain relatively inefficient pharmacies, so too, a reduction in rebates would drive them out of the industry. In geographic markets with one or more surviving pharmacies, the reduction in the number of pharmacies would allow the survivors to operate at higher dispensing volumes and lower average costs. In rural areas, where population density is low, the loss of pharmacies may significantly increase the distances consumers have to travel to visit a pharmacy.<sup>52</sup>

### **Quality of pharmacy services**

Just as an increase in rebates might lead to quality competition among pharmacies, so too, a reduction in rebates might lead to a reduction in quality competition. So we might expect

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<sup>52</sup> While pharmacies can be densely concentrated in urban areas, the same is not true of pharmacies operating in rural areas. We found that the density of pharmacies per capita in rural regions of Ontario is markedly lower than the density in urban areas. We merged data on the number of pharmacies per 'Forward Sortation Area' (FSA, the first three characters of the postal code) with data on the population per FSA (obtained from the 2006 Statistics Canada Census) and tabulated the mean and median density of pharmacies per capita for both urban and rural FSAs.<sup>52</sup> In the 416 urban FSAs in Ontario, there were on average 3.3 pharmacies per 10,000 (median 2.7 and standard deviation of 3.7). In the 50 rural FSAs in Ontario, there were on average 1.8 pharmacies per 10,000 (median 1.7 and standard deviation of 0.8).

pharmacies to spend less on medication delivery, patient education and other programs that were previously used to compete for market share.

### **Pharmacist wages**

A reduction in rebates would almost certainly reduce pharmacist wages. First, there would likely be reductions in both the number of pharmacies and programs that require pharmacists. (While it is true that the remaining pharmacies would operate at higher volumes, the demand for pharmacists does not increase linearly with dispensing volume owing to the judicious use of pharmacy technicians.<sup>53</sup>) Second, a reduction in rebates would reduce revenues earned on each prescription dispensed by pharmacists. These factors operate in concert to reduce demand for pharmacists and hence pharmacist wages. A reduction in pharmacist wages would make it less costly for hospital pharmacies and other institutions that employ pharmacists to attract them. Moreover, a reduction in rebates would likely decrease margins from drug dispensing and hence would potentially make the provision of funded cognitive services like MedsCheck more attractive financially.

### **Impact on pharmacy profits**

The impact of a loss in rebate income on the profits of surviving pharmacies depends on the magnitudes of the attendant changes in these pharmacies' revenues and costs. Revenues would likely decline, but so would costs. The loss of rebate income—estimated to be in the order of \$240,000 for the typical pharmacy—would reduce revenues and it is unclear if increases in prescription volume among remaining pharmacies and any negotiated increases in pharmacy professional fees or markups paid by the public drug plans would mitigate these losses.<sup>54</sup>

Pharmacy costs would likely be lower: surviving pharmacies would have higher dispensing volumes and might be able to exploit some scale economies; pharmacies may spend less on medication delivery, educational programs and other programs that are used to compete for market share; finally, pharmacist wages would likely be lower.

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<sup>53</sup> Pharmacy technicians are set to become regulated in Ontario. See [www.ocp.info.com](http://www.ocp.info.com)

<sup>54</sup> It is unclear whether the professional fees paid on public drug plans would increase enough to compensate for the loss of rebate income. The typical pharmacy – one that dispenses 30,000 prescriptions to the provincial drug plan annually – would require about an \$8 increase in professional fees to offset the loss of rebate income.

The preceding describes what might happen in general. The impact of a reduction in public sector rebates on any individual pharmacy depends a lot on the characteristics of the pharmacy, including:

1. The volume of generic drug prescriptions filled for beneficiaries of the public drug plans. The impact will be less, the greater the volume of prescriptions filled for other clients (those insured by private plans as well as cash paying clients), and the volume of brand prescriptions filled for beneficiaries of the public drug plans.

The impact of a loss of public sector rebates could vary markedly by region. For instance, pharmacies located in growing, affluent suburban areas (such as the so-called '905' region of the Greater Toronto Area) will likely face smaller financial impacts than pharmacies located in regions dense in seniors, social assistance recipients and other beneficiaries of the provincial government drug plans. Similarly, pharmacies in the eastern provinces tend to have much larger prescription volumes than pharmacies in western provinces (see Table 1) and hence would experience larger revenue losses.

2. The ratio of dispensing revenues to total pharmacy revenues. The impact will be less for pharmacies that derive a greater share of earnings from frontshop sales, provision of cognitive services, and other non-dispensing services. On this count, the franchise pharmacies would appear to be the most insulated from a reduction in public sector rebates than independents given that they derive a relatively large share of their revenues from front shop sales.
3. Whether or not the pharmacy owners operate pharmacies in different provinces. The reason is that, to date, not all provinces have taken steps to prohibit or reduce rebate income. A pharmacy operating in multiple provinces may be able to exploit this by realizing rebate income earned nationally in provinces that are not subject to these restrictions.

## ***Conclusion***

Rebate income earned from the dispensing of multi-source generic drugs constitutes a significant share of community pharmacy revenues. The existence of rebates can be traced back to the manner in which the Ontario Drug Benefit plan has historically set reimbursement

prices for multi-source generic drugs. Recently, the ODB, as well as the provincial drug plan in Quebec, has reduced the amount that they are willing to pay for such drugs. They have also restricted the amount and disposition of rebate income accruing to pharmacies. For instance, ODB allows generic drug manufacturers to pay pharmacies a 'professional allowance' of 20% of ODB generic drug sales, provided that these allowances are used for certain patient services.

The impact on the community pharmacy sector of these attempts to lower generic drug prices is unclear. Reimbursement of multi-source generic drugs by private drug plans and provincial policies in other provinces is in a state of flux. The dust has not yet settled, making it difficult to assess empirically the impact of these policies. Absent data to assess empirically the impact of a reduction in public sector rebates on the community pharmacy sector, we developed a conceptual model with which one can assess the likely impacts. The model is useful in predicting the direction of the impacts of a loss in rebate earnings on the number of pharmacies, drug prices and other economic dimensions of this industry. The model is limited in that it cannot predict the magnitudes of these changes.

The model emphasizes the differences that exist in the economics of different pharmacies. Pharmacies differ in their average operating costs and in their revenue earning capacity. For instance, pharmacies with large dispensing volumes can reduce average fixed cost per prescription dispensed. Pharmacies also vary in their location, consumer goods offerings, dispensing services, reputation, and other quality attributes that consumers value. A pharmacy with a particularly attractive set of attributes can profitably raise its prices over what its competitors charge.

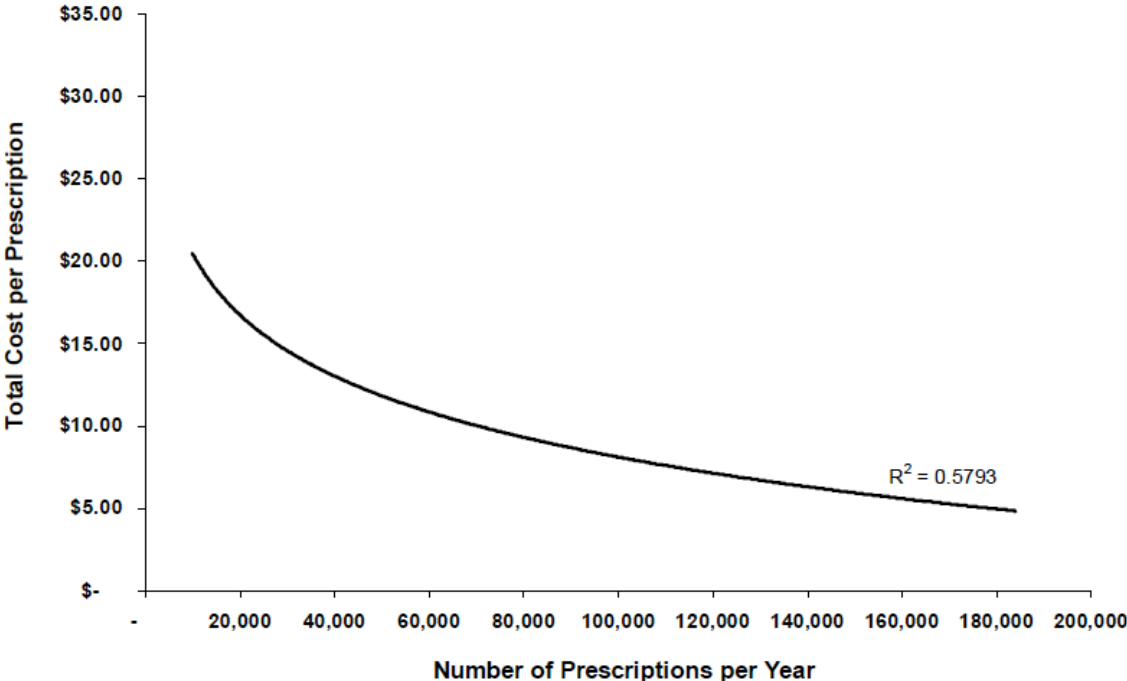
How, then, do rebates affect the economics of the community pharmacy sector? Rebates likely increase the average revenue earned per prescription dispensed and this increase in gross margins has likely attracted additional pharmacies into the industry or sustained marginal pharmacies. These pharmacies have sufficiently high average dispensing costs such that they would not be viable—and hence would not have entered or remained in the market—without the rebate income. According to our model, a reduction in rebates would induce these same pharmacies to exit the industry. The reduction in the number of pharmacies will have various secondary effects. First, surviving pharmacies will absorb the dispensing volumes of pharmacies that close. Surviving pharmacies might be able to exploit some scale economies, i.e., their average fixed dispensing costs will decline as their dispensing volume grows. Second,

pharmacy closures might increase the travel time for some residents of rural areas, where pharmacy density is relatively low.

A reduction in gross margins may also reduce the incentive among surviving pharmacies to compete for market share by offering ancillary patient services, store improvements and other dimensions of quality. Incentives to advertise may also be muted. The availability of pharmacies that offer lower levels of quality but also lower prescription drug prices may be welcome by uninsured and other price-sensitive consumers.

Lower margins on drug dispensing, coupled with fewer pharmacies will likely result in lower wages for pharmacists working in community pharmacies. Hence, hospitals and other employers of licensed pharmacists will need to pay less to attract and retain pharmacists. A reduction in margins on drug dispensing will also decrease the opportunity cost of pharmacist participation in government-funded patient medication counseling initiatives, such as Ontario's MedsCheck program. This should benefit consumers requiring particularly complex medication regimens.

Figure 1 Volume and total pharmacy cost per prescription in a sample of BC pharmacies



Source: AT Kearney. Activity Based Costing Study. Final Report: Study Findings and Analysis January 2007. <http://www.health.gov.bc.ca/pharme/publications.html>

Table 1 Average pharmacy prescription volume, by province and region, 2006

Province/Region	Average Prescription Volume
National 2006	60,000
National 2005	55,300
Western Canada	43,500
Ontario	51,000
Quebec	92,000
Eastern Canada	83,000

Source: McKesson Canada. *Community Pharmacy in Canada: Executive Summary*. Trends & Insights 2007 Survey [http://www.mckesson.ca/documents/Trends\\_2007.pdf](http://www.mckesson.ca/documents/Trends_2007.pdf)



Table 2 Share of Total Spending on Prescription Drugs, by Payor and Province/Territory, 2007.

Province/ Territory	Share of Total Spending on Rx Drugs, by Payor		
	Prov-TerrGovt	Other Public	Private
BC	40%	5%	54%
AB	45%	5%	50%
SK	40%	12%	48%
MB	40%	13%	47%
ON	44%	2%	53%
PQ	37%	15%	48%
NB	27%	5%	68%
NS	34%	5%	60%
PE	31%	4%	65%
NF	37%	4%	59%
YT	40%	29%	31%
NT	19%	36%	45%
NU	13%	58%	29%
Canada	41%	7%	52%

Source: Canadian Institute for Health Information. *Drug Expenditure in Canada, 1985 to 2007* (Ottawa: CIHI, 2008).

Table 3 Number of retail pharmacies & retail pharmacists per 10,000 population and number of pharmacists per retail pharmacy, by province, May 2008

<b>Province</b>	<b>Retail Pharmacies per 10,000 pop.</b>	<b>Retail pharmacists per 10,000 pop.</b>	<b>Pharmacists Per Retail Pharmacy</b>
Nf	3.74	9.03	2.42
Pe	2.94	9.68	3.29
Ns	2.96	9.08	3.07
Nb	2.54	7.31	2.87
Pq	2.18	6.71	3.08
On	2.47	5.88	2.38
Mb	2.84	7.44	2.62
Sk	3.41	9.27	2.72
Ab	2.70	na	na
Bc	2.27	6.09	2.68

Source: National Association of Pharmacy Regulatory Authorities (NAPRA)  
<http://www.napra.ca/docs/0/86/363.asp>

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Table 4 Dispensing Cost by Annual Rx Volume: Ontario and British Columbia

Ontario

Rx Volume	Median Rx Volume	Median Cost	Mean Cost
1,674 – 26,666	19,941	\$17.36	\$20.64
26,807 – 38,118	32,883	\$14.58	\$14.63
38,492 – 50,939	44,376	\$14.95	\$14.39
51,006 – 68,338	58,155	\$13.43	\$13.08
68,490 – 245,570	84,559	\$11.84	\$11.93
<b>All Pharmacies</b>	<b>44,376</b>	<b>\$13.77</b>	<b>\$14.93</b>

British Columbia

Rx Volume	Median Rx Volume	Median Cost	Mean Cost
<25,000	na	na	\$10.81
25,000 - 44,999			\$5.97
45,000 - 74,999			\$7.21
75,000+			\$4.00
<b>All Pharmacies</b>			<b>\$8.02</b>

Source:

Ontario

Mentorx. Costs of Ontario Community Pharmacy Services – 2008. Final Report, 2008

BC

AT Kearney. Activity Based Costing Study. Final Report: Study Findings and Analysis January 2007. <http://www.health.gov.bc.ca/pharme/publications.html>

Notes: These survey data are self-reported, subject to selection bias and are not audited. 505 Ontario pharmacies responded to the survey, representing a response rate of 16.3%. Response rate to the BC survey was not reported. The BC dispensing cost data does not include the overhead costs included in the Ontario data; the two sets of cost estimates are therefore not directly comparable.

Table 5 Description of the types of pharmacy ownership and organization

### **Independent**

An independent pharmacy is not affiliated with any corporately run banner, franchise or chain program. The name of the store is unique to that store, and the owner has complete control over ordering, marketing strategies, store image, etc. The owner may own more than one store; however, it is generally accepted that five or more stores under single ownership constitute a chain pharmacy.

### **Banner**

Independent pharmacies that are affiliated with a central office and pay fees for the right to use a recognized name (e.g., I.D.A., Guardian, Uniprix, Price Watchers, Pharmasave) and to participate in centralized buying, marketing, professional programs, etc., are known as banner pharmacies. While banner stores usually assume a required “look and feel,” the stores themselves are independently owned and the owners retain a high level of autonomy as far as local marketing, professional services, etc. However, if the owner of a banner pharmacy owns five or more stores, these stores are considered to comprise a chain.

### **Franchise**

Franchise arrangements vary widely for retail pharmacies in Canada. The two largest franchises are ShoppersDrug Mart and Jean Coutu. While the franchisees (or ‘associates’ in the case of Shoppers Drug Mart) do not necessarily own the physical store or the fixtures, and master leases are usually held by the franchisor, they enjoy some autonomy in local marketing, buying and in-store services, as well as access to programs developed by head office.

### **Chain**

Chain pharmacies, such as Pharma Plus and Lawtons, employ pharmacy managers who are salaried employees of head office. Head office directs all marketing, merchandising, buying, professional programs, etc. An individual or corporation must own five or more stores to be considered a chain.

### **Supermarket**

As the name implies, supermarket pharmacies are departments within a supermarket such as Canada Safeway and Loblaws. They employ salaried pharmacy managers (except in Quebec, where regulations require pharmacists to own the dispensary; this is usually achieved with a franchise agreement), who follow the direction of head office for all marketing, merchandising, buying, professional activities, etc.

### **Mass Merchandiser/Department Store (Mass/Dept.)**

Mass/Dept. pharmacies are departments within a large retail outlet such as Wal-Mart. Like supermarket pharmacies, they employ salaried pharmacy managers (except in Quebec, where regulations require pharmacists to own the dispensary; this is usually achieved with a franchise agreement), who follow the direction of head office for all marketing, merchandising, buying, professional activities, etc.

Source: *McKesson Canada. Trends & Insights 2005*

Table 6 Pharmacy characteristics by pharmacy type, Canada, 2006

<b>Categories</b>	<b>Independent</b>	<b>Banner</b>	<b>Franchise</b>	<b>Chain</b>	<b>Food</b>	<b>Dept./Mass</b>	<b>Overall</b>
SIZE OF DISPENSARY (SQ. FT.)	699	877	1,012	786	541	683	826
SIZE OF FRONTSHOP (SQ. FT.)	1,111	2,484	6,279	3,771	4,351	7,496	3,411
DISPENSARY HRS OPEN (WKLY)	55	65	85	69	79	69	67
AVERAGE RX VOLUME	56,531	62,008	84,292	71,617	35,750	33,752	59,989
USUAL & CUSTOMARY FEE (\$)	10.40	9.90	10.00	10.00	8.10	7.30	9.50
RX SHARES OF SALES (%)	80	77	56	69	71	52	72
SALES (\$ MILLIONS)	3.02	2.62	5.91	4.42	2.66	2.58	3.44

**Source: McKesson, Canada survey: Trends and Insight Report 2007**

[http://www.mckesson.ca/documents/Trends\\_2007.pdf](http://www.mckesson.ca/documents/Trends_2007.pdf)

Table 7 Pharmacy characteristics by pharmacy type, Canada, 2004

<b>Categories</b>	<b>Independent</b>	<b>Banner</b>	<b>Franchise</b>	<b>Chain</b>	<b>Food</b>	<b>Dept./Mass</b>	<b>Overall</b>
SIZE OF DISPENSARY (SQ. FT.)	591	605	1,391	785	712	953	813
SIZE OF FRONTSHOP (SQ. FT.)	1,333	2,701	5,516	3,805	2,653	1,192	3,085
DISPENSARY HRS OPEN / WEEK	54	63	84	71	77	70	67
AVERAGE RX VOLUME / YEAR	37,000	51,500	83,500	64,300	35,200	46,100	55,000
SALES (\$ MILLIONS)	\$2.02	\$2.47	\$5.96	\$4.24	\$2.37	\$3.68	\$3.32
NET PROFIT/STORE (\$1000s)	\$195	\$211	\$288	\$292	\$140	\$101	\$223
PROFESSIONAL FEE	\$9.48	\$9.32	\$9.57	\$9.40	\$6.25	\$6.49	\$9.16

**Source: McKesson, Canada survey: Trends and Insight Report 2005**

[http://www.mckesson.ca/documents/Trends\\_2005.pdf](http://www.mckesson.ca/documents/Trends_2005.pdf)

Table 8 Average professional fees for some retail pharmacies, by province, 2006

<b>Pharmacy</b>	<b>AB</b>	<b>MB</b>	<b>NB</b>	<b>NF</b>	<b>NS</b>	<b>ON</b>	<b>SK</b>
Costco	5.81	6.86	4.59	4.49	4.49	4.11	4.95
Loblaws	6.67	7.70	6.45	6.14	6.88	7.12	5.53
Lawtons/Sobeys	6.31	7.87	8.56	8.37	8.96	6.30	3.49
London Drugs	8.28	7.32	N/A	N/A	N/A	N/A	4.80
Safeway	10.54	8.37	N/A	N/A	N/A	N/A	7.31
Shoppers Drug Mart	11.48	11.24	8.46	8.60	9.89	10.90	8.18
Wal Mart	7.29	7.57	5.98	6.07	6.67	6.98	5.68
Zellers	8.35	7.91	6.19	6.79	6.74	7.71	5.59

Source: Emergis website – “Average Professional fees by Province for the period January 1, 2006 to June 30, 2006” <http://www.emergis.com>

Table 9 Number of chain pharmacies outlets by province and chain name, 2007-2008

<b>Province</b>	<b>Pharmacies chain outlets</b>	<b>2008</b>	<b>2007</b>
B.C.	Shoppers Drug Mart	127	115
B.C.	Pharmasave	100	100
B.C.	Safeway Pharmacy	72	72
B.C.	Overwaitea, Sav-On Foods	n/a	62
B.C.	Peoples Drug Mart	58	57
B.C.	Family HealthCare Pharmacy	54	54
B.C.	DRUGStore Pharmacy	54	54
B.C.	Medicine Centre	53	53
B.C.	London Drugs	44	40
B.C.	Wal-Mart Pharmacy	29	29
B.C.	Zellers Pharmacy	27	27
Alberta	Shoppers Drug Mart	118	91
Alberta	Safeway Pharmacy	77	77
Alberta	Family HealthCare Pharmacy	46	46
Alberta	DRUGStore Pharmacy	54	61
Alberta	Wal-Mart Pharmacy	43	43
Alberta	Value Drug Mart	40	41
Alberta	The Medicine Shoppe	43	41
Alberta	Pharmasave	32	32
Alberta	A.R.P. Pharmacy	30	30
Alberta	Zellers Pharmacy	23	23
Saskatchewan	PharmaChoice	133	130
Saskatchewan	Pharmasave	38	38
Saskatchewan	Shoppers Drug Mart	30	29
Saskatchewan	DRUGstore Pharmacy	23	23
Saskatchewan	Safeway Pharmacy	14	14
Saskatchewan	Wal-Mart Pharmacy	14	14
Saskatchewan	The Medicine Shoppe	12	11
Saskatchewan	Family HealthCare Pharmacy	10	10
Manitoba	CounterWise Drug Marts	30	30
Manitoba	CounterCare Drug Marts	56	56
Manitoba	Safeway Pharmacy	30	30
Manitoba	Shoppers Drug Mart	34	32
Manitoba	Family HealthCare Pharmacy	25	25
Manitoba	DRUGStore Pharmacy	20	20
Manitoba	Super Thrifty Drug Mart	14	14
Manitoba	Wal-Mart Pharmacy	13	13
Manitoba	Pharmasave	10	10
Ontario	Shoppers Drug Mart	535	512
Ontario	DRUGStore Pharmacy	207	207
Ontario	Family HealthCare Pharmacy	175	175
Ontario	Zellers Pharmacy	113	114
Ontario	Pharmasave	133	133



<b>Province</b>	<b>Pharmacies chain outlets</b>	<b>2008</b>	<b>2007</b>
Ontario	Wal-Mart Pharmacy	101	91
Ontario	Remedy'sRx	111	41
Ontario	PharmaChoice	46	18
Ontario	The Medicine Shoppe	40	38
Ontario	Medical Pharmacies Ltd.	29	29
New Brunswick	Shoppers Drug Mart	41	41
New Brunswick	The Drugstore Pharmacy	20	20
New Brunswick	PJC Jean Coutu	18	18
New Brunswick	Sobeys Pharmacy	14	n/a
New Brunswick	Pharmasave	13	13
New Brunswick	PharmaChoice	12	11
New Brunswick	Wal-Mart Pharmacy	12	12
New Brunswick	Zellers Pharmacy	8	9
New Brunswick	Lawtons Pharmacy	8	8
Quebec	PJC Jean Coutu	305	301
Quebec	Familiprix	274	267
Quebec	Proxim/Proximed	246	246
Quebec	Uniprix	189	189
Quebec	CliniqueSante	150	150
Quebec	Brunet	119	113
Quebec	Pharmaprix	129	105
Quebec	Clini-Plus	53	53
Quebec	Wal-Mart Pharmacy	52	51
Quebec	CENTRESante	45	45
Quebec	Loblaws	1	1
Nova Scotia	Pharmasave	56	56
Nova Scotia	Shoppers Drug Mart	33	33
Nova Scotia	DRUGStore Pharmacy	33	32
Nova Scotia	Lawtons Pharmacy	38	32
Nova Scotia	Sobeys Pharmacy	28	n/a
Nova Scotia	PharmaChoice	22	20
Nova Scotia	Wal-Mart Pharmacy	15	15
Newfoundland	PharmaChoice	40	39
Newfoundland	Shoppers Drug Mart	28	28
Newfoundland	Lawtons Pharmacy	20	18
Newfoundland	DRUGStore Pharmacy	16	16
Newfoundland	Wal-Mart Pharmacy	15	15
Newfoundland	Zellers Pharmacy	12	12
P.E.I.	Murphy's Pharmacies	7	n/a
P.E.I.	PharmaChoice	6	6
P.E.I.	Shoppers Drug Mart	5	5
P.E.I.	Sobeys Pharmacy	5	n/a
P.E.I.	DRUGStore Pharmacy	4	4

**Source: 2008 Pharmacy Who's Who, CAPDM**

<http://www.capdm.ca/publications/publications.asp>

Appendix 1 Professional fees, mark-ups and rebates allowances by provincial government drug plans, 2007

province	Professional fee (DF)	Notes	Markup	Notes	Rebates (%)
NF	6.50	An additional 10% DF allowed if ingredient cost is greater than \$30.00	10%	if the medication cost is over \$30.00	
PE	7.73		7.5-8.5%		
NS	1.0% Actual Acquisition Cost (AAC) + 10.42		10%	on Ostomy supplies and injectables	15
NB	8.40 - 161.00	For AAC less than/equal to \$99, DF= \$8.40	no		
PQ	8.12	DF is \$7.58 for claims of more than 36,500 prescriptions annually	9%	IF purchased by wholesaler a mark-up of up to 9% may be included in price paid to wholesaler. The percentage applied is the declared wholesaler mark-up between 5% and 7.15%.	20
ON	7.00		8%		20
MB	no restriction	Driven by competition, average fees in 2006/2007 was \$11.98	no		
SK	8.63		capped at \$20.00	data as of March 31, 2006, average markup was \$2.86	
AB	10.22 - 20.94	For AAC less than/equal to \$74.99, DF= \$10.22	\$0.71 - \$5.03	For AAC less than/equal to \$74.99, AIA = \$0.71	
BC	8.60		7%	No mark-up is allowed on top of AAC. PharmaCare maximum pricing reflects a maximum wholesale upcharge of 7% from direct cost.	

Source: Provincial Drug Benefit Programs, 33rd ed. (June 2007), Canadian Pharmacists Association

