



PHARMACY
ASSOCIATION
OF SASKATCHEWAN

THE VALUE OF COMMUNITY PHARMACY

An Economic Footprint of the Community Pharmacy Sector in Saskatchewan

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This report was prepared for the Canadian Pharmacists Association and Neighbourhood Pharmacies Association of Canada by The Conference Board of Canada.

At A Glance

- The community pharmacy sector provides benefits to society through the provision of products and services that improve health outcomes and population health, and which supports the creation of jobs.
- In this report, the pharmacy sector's impact is determined by estimating its economic contribution, revealing the portion of Saskatchewan's gross domestic product (GDP) that is linked to the activities of the pharmacy sector.
- In terms of direct effects, the pharmacy sector is estimated to generate about \$305.0 million in GDP, representing about 7.8 per cent of the provincial health sector. The pharmacy sector also employs 5,700 people and directly generates \$204.5 million in labour income among Saskatchewan residents, which translates into \$35,600 per employed person.
- Saskatchewan's pharmacy services sector supports an additional 1,300 jobs from indirect effects and in turn supports an additional \$128.1 million worth of economic activity across the country.
- The pharmacy sector supports an additional 1,300 jobs and an additional \$125.0 million worth of economic activity across the province and the rest of Canada from induced effects. Overall, this leads to an additional \$71.6 million and \$55.2 million in both indirect and induced labour income among local residents as well as residents of other provinces.
- In addition, it was estimated that the pharmacy sector in the province generated a combined \$43.6 million in fiscal benefits to all levels of government in 2016, with about 80 per cent of that amount occurring in Saskatchewan and the remainder across the rest of the country.
- With about 365 community pharmacies in Saskatchewan, the total economic footprint of the pharmacy sector (direct, indirect, and induced effects) is estimated at over \$558.1 million in GDP and 8,300 jobs.

Introduction

Saskatchewan's community pharmacy sector is unique, providing health care to residents in a retail setting. It contributes to the province's wealth in several ways: it improves health outcomes, creates efficiencies in the broader health care system, and it creates jobs. The link between health outcomes and the wealth and well-being of citizens is well established: By increasing life expectancy and treating and preventing illnesses, the sector contributes to a more productive workforce, reduces absenteeism, and increases the number of residents able to work.

The direct economic footprint of the sector in Saskatchewan is the economic contribution made by community pharmacies that provide health services directly to residents. This contribution is equivalent to the wages and salaries that are paid to employees who work to deliver services, in addition to any profits or other surpluses earned in the process of delivering those services.

In this research, The Conference Board of Canada employed Statistics Canada's detailed model of the Canadian economy, to estimate Saskatchewan's community pharmacy contribution to the Canadian economy. The analysis also will show that the

community pharmacy sector makes a significant direct contribution to the economy, and generates significant spillover effects into other sectors. Given that service delivery in the pharmacy is very labour-intensive, and that most services are produced domestically, the ratio of the direct gross domestic product (GDP) contribution is relatively high compared with other sectors.

Approach

In this analysis, the pharmacy sector is defined using the 2012 version of the North American Industry Classification System (NAICS 2012). It is an industry classification system developed by the statistical agencies of Canada, Mexico and the United States designed to provide common definitions of the industrial structure of the three countries. It is intended to make industrial data suitable for the analysis of production-related issues such as industrial performance.¹ Against this backdrop, NAICS industry 44611 (pharmacies and drug stores) comprises establishments, known as pharmacies and drug stores, primarily engaged in dispensing prescription or non-prescription drugs and medicines. These establishments also typically retail snacks, cosmetics, and personal hygiene products, among others.²

The pharmacy sector's impact is determined by estimating its economic contribution, revealing the portion of Saskatchewan's GDP that is linked to the activities of the pharmacy sector. This contribution also affects employment, wages and tax revenues. However, the economic contribution of a given industry is generally larger than the organizations that make up the sector. Given that industries are linked with each other, economic activity in one can trigger economic activity in another. Therefore, to estimate the full contribution of a company, one must also compute its indirect and induced contributions.

While it is challenging to determine how much economic activity is dependent on the Pharmacy sector, using national and provincial multipliers published by Statistics Canada and produced through Statistics Canada's Input-Output ("I-O") model, the economic "footprint" of a given industry can be estimated. When considering the economic footprint of a sector, there are a variety of different effects that can be considered. In this report, we consider four economic effects associated with Saskatchewan's pharmacy sector, including the following:

- 1) **Direct Effects.** These are the economic effects directly associated with the day-to-day operations of the Pharmacy sector. Essentially this covers the economic activity of the sector itself in the province.

¹ Statistics Canada, *North American Industry Classification System 2017* (<https://www.statcan.gc.ca/eng/subjects/standard/naics/2017v2/index>).

² Statistics Canada, *North American Industry Classification System 2017: Health and Personal Care stores* (<http://www23.statcan.gc.ca/imdb/p3VD.pl?Function=getVD&TVD=380372&CVD=380376&CPV=44611&CST=01012017&CLV=4&MLV=5>).

- 2) **Indirect Effects.** The indirect or supply chain effects measure the economic effects associated with the use of intermediate inputs or other support services that are used by the Pharmacy sector in all regions of the country.
- 3) **Induced Effects.** The spillover effects of those that are employed in the Pharmacy sector (both direct and indirect) spend their earnings and profits outside of the sector. These purchases lead to more employment, wages, income, and tax revenues, and their impact can be felt across the country.
- 4) **Fiscal Effects.** Finally, the fiscal impact associated with the above effects is measured at the federal, provincial, and municipal level.

To generate these results, real gross output³ for the pharmacy sector is used as the input for the I-O model. But unfortunately, gross output data is not readily available for NAICS 44611 and must be estimated. This is achieved using real gross output data for NAICS 4461 (health and personal care stores),⁴ and the employment data for both NAICS sector 4461 and sector 44611.^{5,6} Using these data, the Conference Board estimated the gross productivity of sector 4461 in each province, and applied these productivity figures to NAICS 44611 employment to produce real gross output for the pharmacy sector. These values are inputted into the I-O model to generate the outputs of real GDP, employment, and labour income, as well as the fiscal contributions.

However, employment data for sector 44611 is also not readily available and is generated using a combination of Canada Business Patterns data,⁷ and data from the National Association of Pharmacy Regulatory Authorities. Since the Canada Business Patterns data represents only 85 per cent of the community pharmacies in Canada, the average number of employees per pharmacy generated from Canada Business Patterns is applied to the total number of pharmacies in Canada (available from NAPRA) to estimate total employment in the Pharmacy sector. These estimates are then compared with the employment totals published for sector 4461 in the 2016 Census, and the estimates for sector 44611 are then adjusted to remain consistent with the Census data. Gross output for sector 44611 is then calculated by multiplying employment for sector 44611 with productivity for sector 4461. This result is used as the input for the I-O model.

It is worth noting that even though employment for sector 44611 is estimated as an input to the I-O model, and is also an output of the I-O model, this analysis uses the output

³ The measure of total economic activity. It is a much broader measure of economic output than gross domestic product (GDP), which is limited mainly to final output (i.e. value added).

⁴ This subsector comprises establishments primarily engaged in retailing health and personal care products. Drug stores and pharmacies, cosmetics, beauty supplies and perfume stores, optical goods stores, food (health) supplement stores and health appliance stores are included.

⁵ Statistics Canada, *Labour Force Survey*

(<http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3701>).

⁶ Statistics Canada, *Census 2016: Data Tables* (<http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/dt-td/index-eng.cfm>).

⁷ Industry Canada, *Businesses – Canadian Industry Statistics*

(<https://www.ic.gc.ca/app/scr/app/cis/businesses-entreprises/44611>).

from the I-O model to represent total employment in the sector. In addition, since Canada’s community pharmacy sector provides health care to residents in a retail setting, for comparison purposes we combine data from sector 44611 with sector 62 (health care and social assistance) to produce an overall health sector, and determine pharmacy’s place in it.

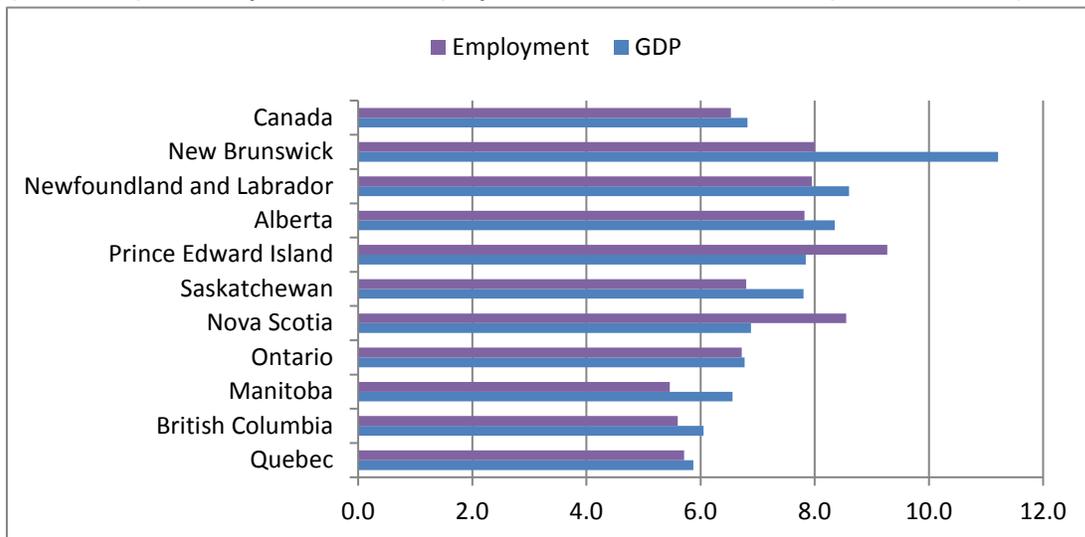
Economic Footprint Results

Direct Effects

The results estimate that Saskatchewan’s pharmacy sector directly employed 5,700 people in 2016. This figure includes everyone who works with pharmacy-related services, like community pharmacists, pharmacy technicians, pharmacy aides, as well as sales supervisors, cashiers, clerks, and shelf stockers. While the pharmacy sector accounts for under one per cent of all jobs in Saskatchewan, it comprises approximately 6.8 per cent of all health employment in the province.

As large as the employment impacts are, it is important to note that the GDP impacts are even larger. On a GDP basis, the pharmacy sector is estimated to be about \$305.0 million, representing about 7.8 per cent of the provincial health sector. (See Chart 1.) The reason why the pharmacy sector accounts for a larger share of Saskatchewan’s health GDP than its employment is because GDP per employee in the pharmacy sector is higher than other health and retail sectors. The pharmacy sector also directly generates about \$204.5 million in labour income among Saskatchewan residents, which translates into \$35,600 per employed individual.

Chart 1: Pharmacy and the Health Sector
(Share of pharmacy GDP and employment in the health sector, per cent, 2016)



Sources: Statistics Canada; The Conference Board of Canada.

Indirect Effects and Induced Effects

Further to the people that the pharmacy sector directly employs, it also generates additional effects in other areas of the economy. For one, indirect effects measure the economic benefits associated with the use of intermediate inputs or other support services that are used as inputs into the pharmacy sector. In effect, the indirect effects describe a sector's supply chain, highlighting the inputs necessary to conduct retail pharmacy activity. Meanwhile, induced effects measure the spillover effects from those employed in the pharmacy sector. For example, an individual employed in a pharmacy spending their income to purchase goods and services, which in turn contributes to the economy.

In aggregate, Saskatchewan's pharmacy services sector supports an additional 1,300 jobs from indirect effects. The indirect effects can also be measured in terms of GDP. In fact, the pharmacy services sector supports an additional \$128.1 million worth of economic activity across the country. On top of that, the pharmacy sector supports an additional 1,300 jobs and an additional \$125.0 million worth of economic activity across the country from induced effects. Overall, this leads to an additional \$71.6 million and \$55.2 million in both indirect and induced labour income among Saskatchewanites and residents of other provinces.

The indirect and induced effects of an industry can also be expressed as a multiplier, which is the ratio of the combined direct, indirect and induced effects to the direct effects. In this case, the pharmacy sector has an employment multiplier of 1.45, meaning for every direct job in the sector it supports another 0.45 jobs elsewhere across Canada. For GDP, the multiplier is 1.83, signifying that for every \$100 the pharmacy sector directly generates in Saskatchewan, it supports an additional \$83 across the country.

All in all, the total economic contribution of the pharmacy sector is the combined effects of the direct, indirect and induced impacts. These are outlined in Table 1. What is more, although Saskatchewan enjoys most of the additional benefits (indirect and induced effects) of the pharmacy sector, its impact reaches across the country. (See Table 2.)

Table 1: Breakdown of Pharmacy Employment, GDP and Labour Income Effects

	Direct		Indirect		Induced		Total	
	Value	Share of Effects (%)	Value	Share of Effects (%)	Value	Share of Effects (%)	Value	Share of Effects (%)
Employment	5,741	69.0	1,320	15.9	1,263	15.2	8,324	100.0
GDP (000s 2007\$)	304,968	54.6	128,086	23.0	125,037	22.4	558,091	100.0
Labour income (000s \$)	204,531	61.7	71,586	21.6	55,223	16.7	331,340	100.0

Sources: Statistics Canada; The Conference Board of Canada.

Table 2: The Impact of Saskatchewan's Pharmacy Sector

	Saskatchewan			Rest of Canada	
	Direct	Indirect	Induced	Indirect	Induced
Employment	5,741	804	689	517	574
GDP (000s 2007\$)	304,968	76,242	76,242	51,845	48,795
Labour income (000s \$)	204,531	40,906	28,634	30,680	26,589

Sources: Statistics Canada; The Conference Board of Canada.

Fiscal Effects

The direct, indirect and induced effects associated with the pharmacy sector also have significant fiscal implications across the country. For the federal and provincial governments, the key areas where government revenues are affected include the federal and provincial gas tax, indirect taxes (which include things like sales taxes), and taxes on trading profits. At the municipal level, it is taxes on production. The analysis estimates that the pharmacy sector generated a combined \$43.6 million in fiscal benefits in 2016, specifically:

- \$9.1 million is generated for the federal government, consisting of \$5.5 million from import duties, \$1.4 million from the gas tax, \$1.1 million from federal duties, and \$749,000 from federal sale taxes like the HST and GST.
- \$22.5 million for the provincial governments, from taxes on production (\$7.5 million), the provincial sales tax (\$5.6 million), and the provincial gas tax (\$2.7 million).
- \$11.9 million in municipal tax collections, mainly from taxes on production.

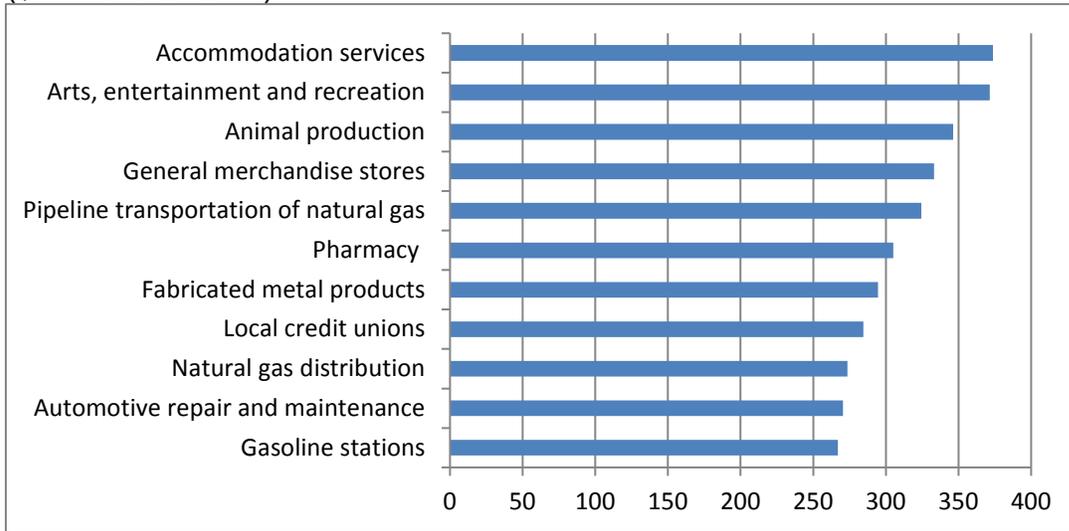
Conclusion and Discussion

The economic output of the sector is approximately \$305.0 million, marginally lower than the activity involved in the pipeline transportation of natural gas.⁸ Once the indirect and induced effects are included, the total economic contribution of the pharmacy sector reaches more than \$558.1 million. The sector employs about 5,700 Saskatchewan residents, about one-third of the number employed in the provincial mining sector.⁹ Once the indirect and induced effects are included, the pharmacy sector contributes to around 8,300 jobs across the province and the rest of Canada.

⁸ Statistics Canada, *CANSIM table 381-0030*.

⁹ Statistics Canada, *CANSIM table 282-0008*.

Chart 2: Pharmacy Sector GDP Compared with Other Industries
(\$ millions of GDP)



Sources: Statistics Canada; The Conference Board of Canada.